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PRIZE ESSAY ON THE COMPARATIVE VALUE OF DIFFERENT MANURES,

(To which was awarded the Premium of the Maryland State Agricultural Society,)

By WM. D. GRESHAM, of King & Queen Co. Va.

The liberal offer of the "Maryland State Agricultural Society," for the "best essay on the comparative value of different manures, founded upon actual experiment," has no doubt awakened a spirit of emulation among Farmers, and will bring forth to the public an account of the experiments which they have been so anxiously and carefully practising for several years past, with a view to the improvement of their worn-out land.

It is not my design on this occasion, to introduce any new theory, supported by novel experiments; but I shall attempt to compile and arrange my various plans and experiments, in such a manner as to make them striking and illustrative of the benefits received, and to corroborate those who have preceded in this noble cause. Already have the essays of STABLER and others, given an impetus to the improvement of soils, which has placed them high in the estimation of the farming community, and will cause their names long to be cherished by this benefitted class. Nor can I fail to mention the great advantage that has been given to that community by Edmund Ruffin, the pioneer in the cause of the improved agriculture in Virginia, the truths of whose writings and practical experiments have so eminently rewarded the agriculturist.

The anxious desire of the Maryland State Agricultural Society for the diffusion of practical knowledge, and of rendering itself useful, has placed it high in the estimation of the farmers throughout the Union, and commands for it an unprecedented respect. Nothing is more calculated to give so great an impetus to that spirit of improvement which is now abroad in the land, than the annual meetings of this society; where the agriculturists of the different sections of the country are assembled—where an interchange of views and plans are discussed or weighed, and where the practical results of land and labor are brought together in competition.

Although my experiments with the different manures have not been as extensive as I would have wished, yet so fully have I been convinced of the

great benefit I have received, that at the risk of being considered but a "novice" in the science of agriculture, I have determined to give them.

Lime.—I shall commence with lime, which I regard as the basis of all permanent improvement, the most important element towards the improvement of worn-out lands, and without which, in some form, all attempts to resuscitate them will be vain and fruitless. From various experiments I have made with the different kinds of lime, I have become convinced that shell lime is the most valuable and efficacious. The superior fertilizing qualities of shell lime, is in part attributable to the phosphorus contained in the oyster shell. I have also applied stone lime from New York and Baltimore, and can with certainty say, the Baltimore surpasses that from New York; our soil contains magnesia, and on that account the alum stone lime acts more promptly than the magnesian limes of Pennsylvania and New York.

The properties of Lime.—The properties of lime have been so often described and written upon, that it would be unnecessary for me to occupy much time and space in going into detail; but so necessary is it, for all to understand some of them, that "line upon line" cannot be too often repeated.

We know lime to be an essential element of all productive soils, and upon its presence in a manner depends all improvement; so powerfully has it acted upon our acid soils, abounding in sorrel grass, that its application can with great distinctness be traced in the first crops. "In correcting the acidity of our soils, and decomposing the poisonous metallic salts," it has acted most beneficially. Lime renders our soils which seem to be packed and close with a scanty supply of grass, much more pulverous and easy to be cultivated; giving a life like appearance, and renders the cultivation much more agreeable to the farmer—it tends to break down the tenacity of stiff clays, improves their friability, and prepares them to be acted upon by the atmosphere; while on the other

hand, upon light soils it acts equally beneficial, in increasing their tenacity, improves their power of retention, and may prevent in a measure, the loss of nutritive manures by exhalation. Lime tends to convert the inert vegetable matter which remains in the land, into food; and thus performs the office of a solvent of inert vegetable matter into nutritious food for the growth of plants—it is the agent to decompose and feed the land with such vegetable matter as would otherwise remain undecomposed, and in this manner may be regarded as an essential element of the soil.

The mode of applying Lime.—I have now been using lime some eight or ten years, and had I not been able to have procured it for my land, I should long since have found a home in our "western wilds," for I am certain I could have never improved them without the use of lime or other calcareous earths; for stable and putrescent manures did not after one or two crops exhibit any very apparent effect. The mode I have adopted in applying lime, has been made easy, and never interferes with my other farming operations. So soon as I have finished my corn crop, say about 10th or 15th July, I order my lime from Baltimore, and commence checking off my land with stakes twenty-one feet long. I check the field entirely over each way, each check contains forty-nine square yards; in the middle of the square I scrape a small space sufficiently large to hold a half bushel of lime, which is deposited from the wagon and the hands go on immediately and spread it, the square being perfectly visible; the hands can in this manner apply it over the whole space with great accuracy. The application is within a fraction of fifty bushels of lime to the acre, as each check contains 49 sq. yards, and if we allow 4900 square yards to make an acre, it would be exactly fifty bushels to the acre; but it is sufficiently near for all practical purposes. I consider it much more beneficial to apply it over the grass, than upon land after it is ploughed; I would advise in all cases, to spread it upon the surface; and if the farmer can spare the capital as long, that it should be applied two or three years before it is broken up. My reason for thus applying lime, is, that it is not only more convenient, and can be more accurately done, but that it more thoroughly mixes with the soil by the rains and frosts of winter. I have, however, derived very great and permanent benefit from applying it in the summer and breaking it up the following spring—fifty bushels is a good application for the first dressing, unless the land should be exceedingly rich, when it would bear a much larger quantity. My mode is to apply fifty bushels the first application, and to follow it with a second application of fifty bushels more when the land again comes into regular cultivation. From all the agricultural information I have upon the lasting benefit of lime upon land, is that one hundred bushels to the acre is a sufficient quantity for almost all land, and that its fertility can be brought to any extent of improvement, provided it is followed by other agents and manures; its effects will last from fifteen to twenty years, and no other application be needed for that space of time. It would be irrelevant and out of place for me here to impress the importance of draining and deep ploughing in conjunction with any and all manures, as essential in the permanent improvement of all worn out lands—let him who expects to reap a crop upon wet or badly ploughed land by the mere application of lime, or any other manure, be at once undeceived.

The necessity of following lime with other agents and assistants in improving soils.—Lime being an agent in the soil, it is necessary that it should be followed by such other manures as the land may stand in need of, as a soil may abound with lime, and other properties for production not being present, it would not of course supply them. As lime combines with inert vegetable matter in the soil, and converts it into food for plants, how necessary is it to follow our applications of lime with the grasses? and above all I place *Clover*, which in conjunction with lime I have never yet seen fail to produce a fine crop, and upon which plaster acts beneficially. I have applied plaster in small quantities, yet I have received but little apparent benefit, unless applied to clover—nor have I been successful in raising clover unless preceded by an application of lime; and in conjunction with lime it is a great renovator. My preference has long been given to clover not only for the purposes of food for stock, but the best of all the grasses for the improvement of the soil. In the words of a distinguished farmer, speaking of the action of clover upon land, he says, "under the dense shade of its foliage and in the moisture thus preserved at the surface of the soil, some subtle process seems to be conducted, some natural chemistry or agricultural alchemy, which we do not thoroughly understand, but which ensures fertility;" we know however that clover has deep roots and draws some of its nutriment from the depths of the soil below the plough's range; and that it extracts from the atmosphere both carbon and ammonia in larger quantities than other plants.

The mode of turning in green crops after an application of lime or marl is one much resorted to by our farmers, and the pea more than any other crop used; especially the black and shinney pea; the mode adopted is to follow their lands and sow the pea in the month of May, and in the fall to plough them in the land in the green state, and in this manner impart great benefit to the wheat as well as lasting benefit to the land. Another mode is to sow the pea in their corn fields, as they are working their corn the last time, (say from the 25th June to 15th July,) the pea is sown as soon as the corn is worked, and cultivators or rakes follow, which both covers the pea and prepares the land for the better growth of the corn; though this mode in a measure sometimes fails to yield a good growth, owing to the growth of corn and a dry spell of weather.

Green crops contain in their substance not only all they have drawn from the soil, but a great portion they have drawn from the air; plough in these living plants and you necessarily add to the soil more than they have from it, and of course you make it richer in organic matter. No subject claims the attention of the farmer of greater importance, than that of turning in green crops for the improvement of their lands, especially after an application of lime or marl. The subject has already claimed the attention of the Essayist and all agricultural journals.

Experiments with Lime.—Upon six acres of land accurately measured there was gathered in 1846, thirty-four bushels of corn. In the summer of 1849, this lot of land was dressed with fifty bushels of lime to the acre, applied as a top dressing, and the following spring a dressing of woods scrapings was added, thoroughly ploughed in, and well cultivated in corn; there was gathered in the fall of

1850, one hundred and twenty-nine bushels of corn; the same fall this lot of land was seeded in wheat, (the first time it had been in small grain for the last twenty years) the wheat grew off finely, and in the spring so flourishing did it appear, I was induced to seed it in clover. The wheat was got out, accurately measured, and eighty bushels the result. The clover has taken finely, and with the application of plaster and bones, will make one of my finest lots.

2d. In a field containing 130 acres of land upon which there was gathered in 1844 about 500 barrels of corn, was limed at the rate of fifty bushels to the acre in August, 1848, and cultivated in corn in 1849; although the corn suffered very greatly for rain, there was gathered 647 barrels of good merchantable corn.

3d. Upon a field of 150 acres of land recently purchased, lime was applied at the rate of fifty bushels to the acre, in the summer of 1850, and well distributed; it was in corn last year and by good judges it was pronounced the best crop that had been upon it for a number of years. It is now in wheat, having had an additional fallow of peas, (peas having been sown last summer in the corn.) I believe this old field, which contained the sorrel and poverty grass, and which was an "eye sore" to all good farmers, will this summer present a new aspect in the foliage of a good set of clover.

Marl.—This is another agent which has been extensively used in this section of the country in the renovation of land, and much advantage has been derived from its application, yet so great is the deficiency in agricultural chemistry and chemical analysis, that some of the marls which from a superficial view appear to have the most shell and other valuable properties, have turned out to be very inferior, and to reward but poorly the undertaker. I have frequently seen farmers who were very zealous in marling their lands, and so soon as they had taken off their crops would turn in large herds of cattle to graze them, and when the same fields would come into cultivation, (that being every other year) they would declare the marl had done them great injury, in rendering their lands more sterile and barren—experience however, has proven their theories fallacious, added to the great improvement in the division of lands and the rotation of crops. No country has more improved by the application of marl than this section of Va. The green sand marl acts more efficiently than any manure I have ever applied; and the marl to which I have reference, is that found along the Pamunky river, of Va. and which has rendered the farms along that river so valuable, and given them a celebrity which is not surpassed by any lands in the State. I have seen poor fields by the application of this marl produce almost double, and it has been ascertained that any amount can be applied, and to the greatest advantage. It is to this marl that the experiments and the five years profit of farming of Edmund Ruffin on his estate in Hanover Co. Va., and which appeared in the pages of the American Farmer, for July, 1849, is alone to be attributed, and which gave a new impetus to the agricultural interests of this section of country. An attempt is now being made in this county, by raising a company and sending vessels after this marl, and I believe it could be delivered any where on the bay shore or its tributaries at a cost not exceeding from six to eight cents per bushel. And it can in deed and truth be said to be "a mine of

wealth to the proprietors, and the adjacent districts which admit of water transportation." I have already occupied more space than intended upon the subject of lime, and as it can with equal propriety, be said of marl, I shall not elaborate with other remarks and experiments.

Ashes.—The application of leached and unleached ashes upon land, has been so visible and apparent to every farmer that it would be unnecessary to mention their beneficial effects in detail. In supplying the alkalis to the soil, so necessary for the production of all crops, renders it one of the most important of all manures. Its application to light and sandy soils, in supplying "the silicate of potash," so necessary for the land, and thereby giving them the power of production, renders it most valuable to such lands. A sufficient quantity of ashes being out of the question for our large fields, "the supply not being equal to the demand," and the price higher than the farmer can in most cases afford, that more need not be said upon their beneficial application, except to recommend them whenever they can be obtained at a fair and reasonable cost.

Guano.—I have been both successful and unsuccessful in the application of this manure; no doubt owing to the fact that some of the article used was of inferior quality, or had been adulterated; and in very dry seasons, its effects are often much less marked. And here let me advert to the fact, that this manure being in the hands of speculators and their agents, it becomes us as farmers, feeling a mutual interest, to rescue it from their hands, and place it under the control of those who have won our confidence. Never has a class in any community suffered so much as the farmer by speculators; his lands, his crops, and finally his manure is now under their controuling influence—yet amid all difficulties, unaided by "the smiles of power," they have continued on, in the even tenor of their way. My experience in this manure shows, that the manner it is used, and the land upon which it is applied, will alone determine its value. It is the most active of all manures; the large quantities of ammonia it contains, and its evanescent nature renders it necessary that something should be used to fix and retain if possible the ammonia in the land; and it is conceded by some that plaster is the best of all known agents in fixing it—plaster being the sulphate of lime, the sulphuric acid having more affinity for ammonia, readily combines with and forms a sulphate of ammonia, which is less volatile, and will remain in the land to feed the plants. Guano should never be applied as a top-dressing, owing to its volatile nature, but ploughed in the land six or eight inches, and the seed sown after and raked in; nor do I believe it will improve land unless followed by some green crop; and nothing acts so well as clover. I have seen poor land upon which guano was applied, produce most luxuriant clover. Upon light and sandy land I believe its effect will not be half so apparent, nor do I believe it will pay as good a per cent.; but upon the close and baked soils, which seem in winter to be in a wet and mucky state, and in summer to be as compact and hard as the winter's frost and cold can possibly make them, are certainly the lands which derive the most apparent benefit.

Experiments with Guano.—1st. Upon four acres of land of medium soil, I applied Guano at the rate of 375 lbs. to the acre. I first applied the Guano and followed it with cultivators to mix it

with the soil; I then sowed the wheat, and ploughed both the guano and the wheat in the land. This was the first application I ever made with guano, which was in October, 1846. The wheat grew off beautifully and was apparent to the eye the whole winter and spring; the wheat was carefully saved and measured, and the result was 15 bushels to the acre, which was about five bushels more than the land would have made without the guano. No clover was sown after this guano, and when the same lot was again in cultivation, no benefit was perceived from the previous application of guano.

2d. Five acres of land were selected in a field, upon which lime had been applied in the summer of 1848, and cultivated in corn 1849; Guano was applied at the rate of 200 lbs. to the acre, and ploughed in the land six or eight inches; the wheat was sown upon the surface and thoroughly raked in. The wheat was much injured by the rust, (as all the wheat was in this section of the country); it was carefully and accurately measured, and the result was 18 bushels to the acre, weighing $61\frac{1}{2}$ lbs. per bushel. Clover was seeded the following spring, with the addition of a bushel of plaster to the acre, and which was equal if not superior to any I had ever had upon any lot.

3d. Two acres of land upon which fifty bushels of lime had been spread to each acre in the summer of 1844, and another application of fifty bushels more had been made in the summer of 1848. In the spring of the year 1849, an application of stable manure was made and the lot cultivated in corn; in the following fall, 200 lbs. of guano was applied to each acre and ploughed in. The wheat did not during the spring show any advantage over that around it which had no guano upon it, and when gotten out, it did not average a half a bushel more than the wheat around it. The two acres were the richest and lightest sandy loam I could find in the field.

4th. A piece of poor land, containing about four acres, which never had the advantage of lime or any other manure, and which was a cold and close soil, was fallowed up in August, 1849, and the last of Sept. 200 lbs. of guano was applied to each acre and seeded in wheat. The wheat grew off rapidly and appeared superior to any I had the following summer; but unfortunately the seed which I got from Baltimore was injured, and by good judges, at least one-third of it did not come up. I did not and could not expect a full crop; nevertheless it branched so astonishingly it made a fine crop, making ninety-six bushels of good wheat. Clover was seeded upon this lot of land and raked in, about 15 lbs. to the acre; it was one of the best sets of clover I saw the following summer.

Bone-dust is another valuable manure, and which is not used in proportion to other manures; apart from the phosphate of lime it contains, the oleagenous properties in it renders it a permanent manure. Its effects upon crops are not in proportion to the benefit imparted to land; it is one of the best manures for the grasses, applied at the rate of from 12 to 20 bushels to the acre, it renders the land much improved. I have derived great and lasting benefit by its application; not so much from the increase of crops, (although they were considerably increased,) as from the great benefit imparted to the land. The great difficulty of procuring ground bones unadulterated, and the high cost of them, has caused them not to have been applied as liberally as I could have wished; consequently my ex-

periments with them have not been as full as I could have desired. The application of bones by different modes, is now claiming the attention of good and practical farmers.

Poudrette—made from "night soil," when properly compounded, forms a good manure. My experience in this manure has been limited, yet I have applied it to corn in the hill; its effect was marked and decided; it was however not so apparent in the increase of the crop, as it was in its growth. I have derived great benefit from it upon vegetables and flowers, and consider it the best manure for gardens. The Poudrette obtained from the Lodi Manufacturing Company of New York, is decidedly the best I have ever used. There are other compounded manures, such as "Salts," "Renovators," &c., made by different chemists; the manipulators themselves differing in their compounds and deprecating the use of their opponent's, is a sufficient guaranty that all their "nostrums" will not answer the same purpose, and added to the additional fact that they have not improved or benefitted our lands or crops, is sufficient in warranting us in recommending other and better manures.

Barn-yard and Stable Manures.—This is the most valuable and prolific source from which the Farmer is by his own efforts and economy to improve his land. This manure, though not so permanent in its effects, yet applied after lime or marl, is lasting and beneficial. It is the great reservoir from which the farmer is by his own industry and management to draw his supplies for the improvement of his land, as well as in a measure to derive his wealth; and he should husband his resources in such a manner as to have a constant eye to the accumulation of not only all the offal from his stock, but all the decaying vegetable matter from his farm. The greatest negligence prevails among many farmers in relation to the carelessness with which they attend to their barn-yard and stable manures; the voidings from cattle, the evaporation of the nutritive portion of manures, would, if saved and attended to, improve more land than what little they carry out upon them. There is nothing which a farmer can more judiciously use than plaster, in the absorption of the voidings as well as the effect of fixing the valuable properties of manures, which are constantly escaping in the form of gases; I would then advise the liberal use of plaster in all the vegetable manures raised upon the farm; it is essential in all well regulated and ventilated stables and cow sheds, in preserving the health as well as the eyes of the animals, from the noxious exhalations of the pungent if not poisonous gases which are constantly escaping from the manures. Plaster fully repays the farmer who uses it, ten fold. Much could be said upon this subject, but fearing this Essay, already too long, may become tiresome, I shall conclude this subject by strenuously advising a more careful and constant eye to the accumulation and preservation of barn-yard and stable manures.

In conclusion, whether you have the stiff clays or sandy loams to contend with on your farms, and you desire to restore them to fertility, they must have the advantage of *lime, clover and plaster*, and a regular rotation of crops. You must lend all your energies to the accumulation of manures, both *animal, vegetable and mineral*,—you cannot expect your lands to yield you remunerating crops unless you continue to keep up its fertility by lib-

eral applications of manure. Should your barn-yard and stables fail to afford you a sufficient supply, you should go to your marshes, woods and ditch banks, and there find the elements for manure. We know the chief element of all manure being vegetable matter, and its production being necessarily slow and laborious on exhausted soils,

we should take advantage of every assistant in increasing and applying it to the soil.

Hoping that this Essay may be received by farmers in the spirit in which it is written, and may be the means of eliciting better information on the different manures, it is most respectfully submitted to their consideration.

PRIZE ESSAY

ON THE COMPARATIVE ADVANTAGES OF DRILL HUSBANDRY OVER THE OLD SYSTEM,

(To which the Premium of the Maryland State Agricultural Society was awarded,)

By EDWARD STABLER, of Montgomery Co. Md.

The importance of the subject, and believing that a more extended knowledge of the advantages in the use of the Drill, over the old method of seeding broad-cast, would prove beneficial to the Agricultural community, I am induced to give my own experience, and also the result of considerable observation on its use, by others. In theory at least, this subject has long been familiar to me; but from the high price of the implement, generally about \$100.00, doubts were entertained whether small farmers,—those who grow from ten to twenty-five acres in wheat, were justified in incurring so much expense. Previous however to changing my plan of seeding wheat, and covering with either the harrow, cultivator, or small plough, I carefully examined many fields with the wheat drilled in, in adjoining counties in my own, and other States; and with the opportunity in many cases of comparing the growth, and actual results, in the same fields.

Within the past three years, these observations have extended over drilled fields, in the aggregate to fully 800 to 1000 acres; exclusive of drilling last year about 100 acres in my own crop and for several of my neighbours. This year we shall use it to greater extent, should the season permit late seeding.

In no instance, either in my own, or the experience of others, where the results have been carefully ascertained and compared, has the drilled wheat failed to prove the most profitable; first, in the saving of seed; and secondly, in the increased product of grain; and varying from one, to six or seven bushels to the acre.

In a single case only have I heard the drilling condemned. The ground alleged, was the greater liability to rust, and lateness of maturity; but from an examination into the case, there were other causes too apparent to be overlooked, and quite sufficient to produce this result, without attributing it to the use of the drill; the wheat was seeded in low, wet land, and several weeks later than it should have been. Had a portion of the same land been seeded broad-cast, and under similar circumstances, it is confidently believed the latter would have been quite as much affected with rust, and probably a lighter crop also, to be thus affected.

I will proceed to state some of the advantages, and disadvantages, as I have found, attending each method. The most common mode of covering wheat in broad-cast sowing, is with the harrow; and if the land is well prepared previously, i. e. in fine tilth and level surface, the harrow will so imperfectly perform the operation, as to leave

much of the seed uncovered; or so near the surface, that the first settling rain thereafter will expose no inconsiderable portion of the grain.—True, some of this will sprout and take feeble root; but it is generally thrown out and killed by the winter's frosts;—together with another portion, covered, though too shallow: hence the necessity of adding an increased quantity of seed to guard against this contingency.

To provide against this loss of seed, my broad-cast seeding has usually been from $2\frac{1}{2}$ to 3 bushels to the acre; and if harrowed in, rarely stands too thick at harvest. If the shovel plough, or small bar-share is used instead of the harrow, a considerable portion of the seed is covered too deep, and is necessarily irregular in vegetating;—even if some does not fail entirely to force through the ground; and this irregularity continues, both in length of head, and maturity until harvest. When cut, the crop is interspersed throughout with green heads, unless the best wheat is permitted to stand too long, and to shatter off in the harvesting.

There is also another objection to broad-cast sowing; it is not possible, either to distribute on the ground, (particularly even in moderately windy weather) or cover the seed with regularity; in places it is quite too thick, and in others again as much too thin. This disadvantage, I have with others long been aware of; though without practical knowledge, could not fully compare and appreciate the "advantages of the drill husbandry, over the old system" of broad-cast seeding.

We will now compare the two methods, by stating what are, in my opinion, the advantages of using the drill. If the seeding is performed early, so as to admit of the branching or "tillering" of the grain in the fall, five pecks properly drilled on land of medium quality, will generally prove sufficient; but as it is unsafe on account of the depredations of the Hessian fly to seed most varieties of wheat early, I drill $1\frac{1}{2}$ bushels, and sow broad-cast not less than $2\frac{1}{2}$ bushels to the acre; of course there is a saving of one bushel of seed: but as most persons perhaps would only sow 2 bushels broad-cast, and drill five pecks, we will assume a clear saving of seed of three pecks to the acre. This would more than pay for the hire of a drill, at the usual charge of 50 cents an acre; and the same team will drill near or quite two acres to one over the harrow, and probably four or five to one over the shovel or small seeding ploughs.

Assuming the cost of the team, hand and harrow, at \$1.75 per day, the account will stand nearly as follows for fifty acres of wheat—

Broad-cast.	Drill.
300 bushels of seed at \$1...\$100.00	62½ drilled 5 p.....\$22.50
10 days team, &c. at \$1.75...\$17.50	5 d. team and drill 1.75—9.75
	Difference in favour
	of drill.....46.25
\$117.50	\$117.50

If to the above we add only one bushel to the acre increase by drilling, here is a saving in a single season, of near or quite the cost of the best drill in the country, in seeding and growing a crop on fifty acres.

It may be urged that five acres is rather too small an allowance for a day's work with the harrow, in a large field with comparatively little turning of the team; granted; but in a large field the drill will seed 14 to 16 acres a day with the same team that would properly harrow in,—by lapping over the previous course—seven to eight acres of wheat. I assume the increase at one bushel only; when my own experience, and also of those on whom I can rely for correct details, go to prove that from three to four bushels is much nearer an average increase.

I am aware that some advocate the drilling of two, and even two and a half bushels to the acre; and with their unusually productive lands, it may be, and doubtless is justified by experience; but where there is one acre that produces 35 to 40 bushels of wheat, there are probably thousands seeded that do not yield the half, if the third of it; but whether drilled or broad-cast, it is believed less seed will suffice in the one than in the other mode, to produce at least an equal crop; with the best conducted broad-cast operations, there is usually, if not always more or less loss, if not an actual waste of seed. Those who consider 1½ bushels sufficient broad-cast, will probably have as good, or a better yield with 1 bushel properly drilled.

It may be asked by those not familiar with the drill why there should be a saving in seed and an increased product, by its use? In the first place, the seed is all regularly distributed, and to a given depth, 1, 2 or 3 inches, by an arrangement for the purpose, and at the pleasure of the farmer; and it is all uniformly covered; consequently, having an equal start in vegetating, and all liable alike to the changes of moisture and temperature, it all arrives at maturity more equally. The same causes also operate to produce more similarity and larger heads; for from large and heavy heads only, can we expect to reap heavy crops. When the grain is sown irregularly, and covered at different depths, with portions of it crowded together, all our experience proves that many of the heads are short and small;—poorly filled, and late in maturing.

Again, this plan of seeding leaves the earth ridged up between the drills, which is gradually crumbled down by the frosts; and as the alternate freezing and thawing has a necessary tendency to throw out the young plants, this process of feeding them, as it may be termed, rarely fails in this way to protect the tender growth, and to prevent serious loss from seeding in low wet lands; and which would otherwise be half lost in some cases.

There is however another advantage, and an important one; the open spaces between the drills, afford a greatly increased chance to get a good stand of grass seed;—clover, timothy, or other varieties, which should always be liberally sown on the wheat that finishes the rotation of grain crops. In the course of my investigations, many cases might be referred to, in which the results, care-

fully ascertained, and comparing the yield by both methods, has shown the increase by drilling to average several bushels to the acre; and if to this be added the saving in seed and the greater facility, and economy in labour, the saving is still more; but not having permission to use the names of individuals,—some of whom even prefer not to have them made public—it would be unsatisfactory perhaps to state results, without giving names.

It may however not be amiss to state, that all, so far as my knowledge extends, who have given the Drill culture a fair trial, are more than willing to continue its use by hiring the work at 50 cents per acre, if they have not the money to spare to purchase one for themselves; being satisfied as before stated that the saving in seed alone, will fully pay for the use of a drill. Without giving names,—though I am quite willing to vouch for the high standing and respectability of the parties, knowing them personally, and having examined the crops on the ground—I will refer particularly to two cases; one to test the increase, side by side with drilling and broad-cast sowing; and the other on an extended scale with the drill, after testing the relative merits of both modes.

The first was the least increase ascertained in any case, and was on

1½ acres broad-cast, 2½ bushels seed; yield 43b. and 23 pounds;

1¼ acres drilled adjoining, 1b. 3½ pecks seed, yield 44b. 43 pounds;

or increase per acre, including the saving in seed, nearly 1½ bushels; a less increase I am inclined to believe than will generally be obtained on land less fertile. The other case was a field of one hundred acres; fallowed, and liberally limed just before seeding, and drilled with 1½ bushels of seed to the acre; the actual yield was thirty-six hundred and fifty bushels,—an average of 36½ bushels. Two acres, as I am informed by the owner, were measured off, and ninety-six bushels of clean wheat obtained therefrom. Nor was 36½ bushels considered a fair average; but for a tornado that blew down and scattered nearly the whole crop,—leaving only 17 or 18 standing, out of 1800 shocks or hand stacks, the yield of this field would most probably have been full 40 bushels to the acre; there were 1200 shocks on the hundred acres, and but for the cause alluded to, it was believed would have averaged 3½ bushels each. In extent and quality together, it was the finest field of wheat I ever saw. A portion of this ground was seeded broad-cast in order to test the relative yield; but from the casualty referred to, and the mixing of the shocks, it could not be done accurately;—with the same quantity and adjoining lands or beds, and equal measure of seed, however, it was estimated by the increased number of shocks and better filled heads, that the increase by drilling was not less than from 8 to 10 bushels to the acre. But say five bushels increase; and we have 500 bushels gain, and in a portion only of a single crop.*

Others have stated their increase by drilling, at

* Note.—Since writing this Essay, I have obtained permission, and with pleasure give the name of this gentleman,—John A. Selden of Westover, Va.; and large and unusual as some may consider the yield in this particular case, it was very nearly equalled on 280 acres of drilled fallow and corn land wheat, at Shirley, a few miles distant; the average being between 29 and 30 bushels to the acre on the whole. Here also the ground was fallowed; tho' not applied as in the former case, to the wheat crop. On both of these estates lime has been liberally used; and with the aid of clover and plaster, their products have been fully doubled within comparatively a few years.

three to five bushels per acre, and two at 6 and 7 bushels, estimated by the increased number of shocks. Reference could also be made to well authenticated experiments where the increase by drilling, carefully compared side by side with broadcast sowing, was seven and eight bushels; and in one case well attested, it was equal to nine bushels to the acre; these however, are considerably above the average increase. An incident came to my knowledge, so germane to the subject, and so well vouched for, that I give it full credence. A vendor offered a drill for the increase in a crop of fifty acres of wheat;—the grower to determine this to his own satisfaction, by seeding portions through the field broadcast. Before harvest however, he agreed to pay one hundred dollars, the price of the drill, with interest, having that privilege. On carefully ascertaining the increase, it was found to be one hundred and fifty-three bushels.

It is not worth the time and paper to offer testimony to those who are well informed on the subject, and have used good drills; they do not require it; but to the inexperienced it may be desirable to have more light thrown on the subject; and to such I now address myself.

The best implement for any purpose, is generally the cheapest in the end;—and of all Agricultural implements, the *best Drill*, is unquestionably the *cheapest*. It is a "penny wise and pound foolish" policy, to purchase a drill merely because it can be had at a low price. If it performs imperfectly, it may prove dear at any price, and is not worth having; as it is sure to lead to disappointment, and may occasion more loss in a single crop, than would pay the difference,—if not the full price, of an efficient and first rate article. I gave \$100 for a drill last season, in preference to others offered at about half price; and the saving in my own crop in the seed and increased product, and also by drilling for several of my neighbours, nearly or quite repaid me the cost; to say nothing of the economy of time and labour in seeding, and the satisfaction of having the work done in a complete and workmanlike manner: having indeed, rarely expended the same amount of money with more satisfaction. I would not, however, be understood as intending to convey the opinion, that an efficient drill cannot be made at much less price. Increased demand will cheapen production; as well by competition, as by enlisting more inventive genius and skill in the manufacture. If not now attained, as I believe it is, a good drill and sufficient for all practical purposes, will be furnished at about half the sum.

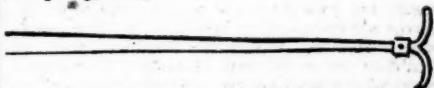
As a general rule, whenever the land is in proper order to seed and cover with the harrow, it is in a suitable state for the drill;—indeed a good drill will perform the operation and cover the wheat much better in dry rough land, than the harrow; and it will also come up much better.

If the land is broken up when moist, and well ploughed, the harrow may often be dispensed with; or at most, a light harrowing is sufficient under such circumstances to prepare it for the drill: but if dry, and rough from clods, the roller should follow the harrow, and precede the drill. The objection to the roller on stiff clay soils, is entirely obviated, by the state the land is left in,—by the *combing* of the drill; being as light and mellow almost as an ash heap; it materially aids in giving a fine tilth,—better than any other implement. The seed being covered deeper and of uniform depth,

renders the fine soil less liable to be washed off and the plants washed up across the rows, as the stalks and roots form no inconsiderable barrier to the free passage of the water; nor is drilled wheat half as liable to be thrown out by the frost. There is still another advantage attending the drill, which a *neat and systematic farmer* will appreciate; it measures very accurately, and registers the contents of each field in the operation of seeding; thus enabling him to apportion his seed, manures, &c. with precision, and obviating all necessity of guessing at what should be known with certainty.

No good practical farmer however, will attempt to seed his land until it is properly prepared to receive and nourish the grain that is destined to furnish him with his daily bread, and reward him for all his toil. If seeded in a slovenly manner, on land only half prepared,—and immaterial which way seeded, he should not be surprised if at harvest, he can only reap a meagre and sorry crop.—If he waits for *nature* to do his share of the work,—the clods to be broken and pulverized by frost, he will be very likely to find much of his seed destroyed in the interim, by the same active and powerful agent; and all for want of a little extra care, and protection to the tender plants.

Corn roots are not material obstructions to a good drill; grass and weeds by catching on the points, are greater drawbacks; but with a little extra attention, and a boy provided with a hooked stick, some 4 to 5 feet long,—or better still, an iron prong, thus,



driven into a handle, to push and pull, will enable the drill to perform satisfactorily in any land at all suitable to seed in.

The Drill is not calculated to work in *new ground*; tho' a stump occasionally is readily passed round. Fast rocks, cause a few moments delay by breaking a wooden pin,—used and intended to be broken by such obstructions, and without at all deranging the machine otherwise. If well constructed and made in a durable manner, it will last many years, by merely renewing the steel points and brushes;—and these will seed 200 to 300 acres, or more perhaps in some light soils, without renewing.

There is considerable diversity of opinion as to the proper width apart of the drills; and after carefully comparing the crops at 7 to 9 inches, I prefer the latter; and for the following reasons.—If the land is poor, or only of medium quality, this space is not too wide; and if rich, the grain will branch sufficiently to fill the intervening spaces above ground, and afford none too much room for the grass seed; again, if the growth of straw is very luxuriant, and drilled at much less than nine inches, the young grass is liable to be smothered out. Some advocate and laud the improvement of having two lines of drills; alternating the depositing tubes, so as to form a zig-zag; and thus afford more space for stones, clods, and rubbish to pass between them. It may aid in this particular, but on the whole I consider it a disadvantage, and no improvement whatever; as about half the wheat is covered at unequal depths,—the hindmost drills not having an opposing one, throws off the earth too far, to fall back and cover its wheat sufficiently; and at the same time places too much soil on

those that precede it on each side. Thus half the crop only, has the advantage of proper and uniform side-ridges to prevent injurious action of the frost—an important consideration. If however, the ground is so rough from clods, stone, or rubbish, that they cannot pass through a space of nine inches, by setting the tubes in a line with each other, the machine had as well perhaps be laid aside altogether, until the farmer learns and practices one of the first rudiments of his calling; i. e. to prepare his land in a suitable manner to receive the seed. It would be about as reasonable to expect the implement to work satisfactorily under such circumstances, as to require the school boy to read fluently, or to write a fair hand, before he had learned to spell correctly, or was familiar with the use of the pen.

PREPARATION OF WOOL FOR MARKET.

To the Editor of the *American Farmer*.

MR. EDITOR:—Being under the impression that a few remarks upon the preparation of Wool for the market, by the grower, may not be unacceptable, I beg to send you the following, which should it prove of sufficient interest, I trust you will allow a small space in your valuable journal.

From experience, I know that the price given for Wool by the manufacturer, greatly depends on the condition in which it reaches the market, that condition having reference to the following essentials, viz: being well washed, free from dirt, burrs, leaves, grass seeds, and other extraneous matter, having the yolk or grease spread through it, the fleeces not being cut, or broken more than necessary in shearing, rolling the fleeces properly, so that they can be unfolded with ease, for the purposes of the wool sorter. These I believe constitute the principal objects to be attained.

First, then, of Washing—the water used should be river, or if this be not convenient, I prefer pond to spring water, as there is a peculiar hardness in the latter, which is bad for cleansing the wool.—Having selected your place of washing, (let it be in a part of the river where the current is moderately strong,) the water about four feet deep, build a small platform from the pen in which you intend putting the sheep before washing; let it extend into the water about three feet, for the purpose of throwing your sheep clear of the bank; drive your stakes into the ground, forming a square whose sides may be about eight feet long; let two of them be parallel with the stage; tie four poles to the stakes, forming a pen that will hold from ten to twelve sheep. This pen is called the soaking pen, and is used in this way: the person employed to catch the sheep and throw them into the water, puts as many into the pen as it will conveniently hold, in which a man must be placed for the purpose of moving the sheep and preventing them from drowning each other. When they have been sufficiently long in the pen to soften the wool, say from three to five minutes, according to the strength of the sheep, let them be passed out by the man in the pen, one at a time, to assistants standing at a convenient distance, say six men—each pair of men taking a sheep, one taking hold of the fore part, the other the hinder, squeezing the wool upon the back and neck with the hands, and frequently turning the sheep sideways, backwards and forwards, for the purpose of rinsing the dirt out of the wool till quite clean; then passing the sheep to the next pair of hands, so that each one passes

through the file of men, each pair having a chance at him. Let the last pair of men be placed in such a position, that they will be near a good landing place for the sheep, which should be a gradual ascent, so that they may walk out without falling.—If you have a fall sufficiently high to admit of a shoot to rinse the sheep under, it will be a great advantage. I would recommend its being constructed in the following manner: have the shoot five feet wide, so that the water will fall upon the sheep from the head to the tail, and let the water be deep enough under the shoot to prevent the sheep from standing, otherwise it will be found difficult to hold them there. Do not allow a large body of water to pass over the shoot, not more than half an inch, for in the event of there being too great a body, it will close the wool, instead of opening it, and thus defeat the object to be attained. The field into which the sheep go, after leaving the water, should be grassy, as they will frequently lie down after the fatigue of washing.—Pasture them in as well grassed a field as possible, to keep the wool clean till shearing. The time of shearing should vary from four to eight days, according to the weather, but this the owner must be the judge of, by the rising of the yolk or grease in the wool, and the facility he may have for keeping the sheep clean. There is a bad practice of crowding the sheep into pens the night before shearing, to force up the yolk, but the yolk so raised will soon pass from the wool, and in a few days leave it harsh and dry. Of shearing, I would remark that the fleece should be opened by the shearer only on one side, first shearing the belly, and turning it over from him, so that it will not be detached from the fleece, which he should be careful not to break.

There is another matter that the shearer should be careful of—cutting the wool twice. It will frequently be perceived by the folder, that there are a number of small shies of wool attached to the under side of the fleece, caused by the shearer cutting twice, or taking more wool in the shears than he can cut at one stroke; this is of great consequence, as it shortens the staple of the wool and materially detracts from its value.

Every fleece when shorn should be taken carefully up from the floor, and placed upon the table with the inner part downwards, the neck being to the left hand and the breech to the right. After spreading the fleece open, throw the belly into the centre and turn the sides in six or eight inches, then make one fold from the edge of the table next the folder to the other side of the fleece; commence rolling from the breech and roll to the neck, moderately tight; do not tie them; pack them squarely side by side, in the place appropriated for them, and when required to be put into the bale, they will adhere as well as if tied.

The wool table should be eight feet long and five feet wide, and composed of half inch slats, placed an inch apart and standing upon tressels. This table will allow any dirt or small wool to pass through and be collected underneath.

Baltimore, May 12th, 1852.

AUSTRALIA.

BENEFITS FROM CURRYING MILCH COWS.—The late eminent Dr. Benjamin Rush, in a lecture upon the advantages of studying the diseases of domestic animals, states that there is an improvement in the quality of the milk, and an increase in its quantity, obtained by currying the cow. How few cows there are in our country that ever felt a curry-comb or brush!

WORK FOR THE MONTH.

JULY.

This is a month for action—well directed action—and, therefore, we shall not waste either space, or time, in preliminary gossip, but come down at once to what should be attended to on the farm.

HARVESTING GRAIN.

The labors of the harvest field, in many of the States, require immediate attention, and we may, therefore, in all propriety, make such suggestions to our brethren, as present themselves to our mind as being opportune and salutary.

Harvest implements.—These should be of the best quality, while the supply should be abundant, to provide against accidents. We look upon it as true economy in a farmer, to get every article of the first quality, and to provide himself so liberally, as to be in a condition to meet every contingency,—and next, that he should personally inspect every implement in his possession, to ascertain whether any of them may require repairs, so that he may have all put in the very best possible order before they may be wanted; nothing of this kind should be left unattended to until they may be required for use. This is a duty which no farmer should entrust to another, as there are but few who feel the same interest, as he should feel, himself, and the maxim is as sound in farming, as it is in politics,—that no one should confide that which he can, and ought to, do himself, to the agency of another.

Harvest Force.—Having inspected and secured an ample supply of harvest implements, the next thing that should demand your attention—and that instantly—is your *harvest-force*. If your own hands are not sufficient to cut down and secure your *entire crop, in good time*, and with ease, procure at once the services of such number of good, orderly hands, who work for hire, as will more than make up the deficiency. It is much better, on such occasions, to have too many, than too few. In your selections, act promptly, in order that you may have a choice, and be careful that you get industrious, energetic, sober, skilful men, who will do a good day's work, and that they are of peaceable dispositions.

Harvest Supplies.—These should be ample in quantity, and of good quality. For men working in the harvest field, under the influence of an almost consuming sun, require that nutritious lunches, between meals, be served out to them, to re-nerve their arms, and repair their wasted physical energies—and what they do receive, should be of a character to tempt their appetites. Besides the pleasure which a farmer derives, from the reflection that he had been liberal in providing for the comfort of his hands, the mere fact of his having done so, gives him a controlling influence in selection, as the hands, themselves, are ever solicitous to work for those who treat them best, and provide for their wants with the most care, and in the most generous spirit. Let the Cynick say what he may, of the degeneracy of man—let him hurl his satire, and his denunciations, broadcast, if it so please him, against the proneness of man to wrong his fellow-man, *kind treatment and gentle words*, will, despite even bad natures, and perverse dispositions, go farther to strengthen the laborer's arm, and animate his mind to a faithful discharge of his duty, than can the most systematic system of driving ever projected and carried out by an employer; no

matter howsoever sagacious or shrewd may be the character of his mind. Kind treatment is as prolific in its good effects, as is a fertile soil, in its products—the first, fills the heart with generous emotions—with grateful sentiments—the last, contributes its fruits with an abundant measure.

Harvest Drinks.—Men working in the harvest-field, under the combined influence of heat and labor, become feverish and thirsty; for the perspiration, which is so profusely thrown out, naturally tends to produce such condition of the system; they should, therefore, to counteract these enervating effects, be supplied, at short intervals, with some mildly invigorating, refreshing beverage, and we know of none more so than the one we have been in the habit of recommending to our readers, composed of half a gallon of molasses, 5 gallons of water, and $\frac{1}{4}$ lb. of ginger, stirred well. The cooler the water may be, the more grateful will it be to the palate of the thirsty harvester, the more strengthening will it be in its effects upon his system. Mixed with molasses and ginger, the coldest spring, pump, or well water, may be used in safety, though the party partaking of it may be pouring out perspiration in continuous streams from every pore of his body.

PERSONAL ATTENDANCE IN THE HARVEST-FIELD.

The proprietor should be present in the field during the whole time of harvesting; his presence, besides preserving order, preventing disputes and personal collisions, will secure at least 20 per cent. more work being done; will ensure to the hands regularity in the service of their refreshments, and make them know that none can idle away their time without detection. Again, the presence of the proprietor evinces an interest on his part, that infuses the same spirit into his workmen; for there are few who will indulge in the *game of killing-time* under the eye of their master or employer.

RESPIRE IN MID-DAY.

If the day be very hot, the hands should be allowed from an hour and a half to two hours, at dinner time; but they should be made to make it up, by going to their work early in the morning, and continuing till twilight. Such a disposition of time, will be best for both the master and his men. The first will get more work done, and the last work with more comfort to themselves.

SECURING THE CUT-GRAIN.

It should be a fixed rule, to have all the grain that may be cut through the day, set up in shocks before the hands quit the field, to prevent injury from rain, which occurs so frequently during harvest.

TIME OF CUTTING.

As we have often stated, all grain should be cut before it becomes full or dead ripe—when the stem becomes yellow and arid four or five inches below the head, it should be cut; for from that period the grain receives no benefit, as the sap cannot circulate beyond the arid line. It may be set down as a safe rule—**CUT FROM 7 TO 10 DAYS BEFORE THE GRAIN IS DEAD RIFE.** If cut at this period, there will be but comparatively little loss from shattering; the grain will be more in quantity, better in quality, and make better flour, and what is not less important, save it from rust, while the straw will be greatly enhanced in quality as stock-provender.

Upon the subject of early cutting, we will copy

two extracts which we gave in our July number of last year, in order that our new subscribers may have the benefit of them:—

M. Cadet de Vaux, of France, has recommended as an important innovation the reaping of corn [small grain] before it is perfectly ripe. This practice originated with *M. Salles* of the Agricultural Society of *Besiers*: grain thus reaped (say eight days before it is ripe) is fuller, larger and finer, and is never attacked by the weevil. This was proved by reaping one-half of a piece of corn field, [wheat] as recommended, and leaving the other till the usual time. The early reaped portion gave a hectolitre (about 3 bushels) of corn [wheat] more for an acre of land than the later reaped. An equal quantity of flour from each was made into bread; that made from the corn [wheat] reaped green gave 7 lbs. of bread more than the other in 2 bushels. The weevil attacked the ripe, but not the green. The proper time for reaping, is when the grain pressed between the fingers has a doughy appearance, like bread just fresh from the oven when pressed in the same way.

Upon the same subject, *Mr. John C. Reid*, of *Laporte, Indiana*, gives the following as his experience:—

"The first when cut was in what was called *dough*, the last *very ripe*. The first cut weighed 65 lbs. per bushel; the last 60 to 63 lbs. The first made the finest flour, and the greatest quantity to the bushel."

HAY HARVEST.

Cut your grass when in bloom; the hay thus cut is more grateful to animals, and is infinitely less exhausting to the land. As we were full in our remarks in our "*Essay on Meadows, and their management*," vol. 6, p. 333, we are saved from the necessity of restating them here.

SOWING MILLET.

This grass may be sown up to the 10th of this month. On deep loam, or sandy loam, well manured, and well prepared, it never fails to yield a large crop; but, as it is reasonable to suppose from the rapidity with which it comes to maturity, it *must be well fed*. It stands drought well, but cannot sustain itself under the pressure of hunger.

WET MEADOWS.

These should be drained during this and the next two months. The sweet grasses have a disrelish for wet soils. Indeed, all wet lands, whether intended for grasses, the cereals, or any other crops, should be drained; for no soil surcharged with water can be cultivated to advantage; even the most fertilizing manures are almost powerless upon them.

FALL POTATOES.

Keep these clean of weeds, and the earth occasionally stirred until you lay them by. If at the time of planting, or since, you have not top-dressed with a mixture of *ashes, lime, plaster, and salt*, do so without farther delay. Ten bushels of ashes and a bushel of each of the other substances, intimately mixed together, will make a full dressing for an acre in potatoes.

As we have often stated before, we do not recommend this mixture as a *preventive* against, or *cure* of, the rot; for, according to our poor judgment, it is necessary to first understand the cause of the disease, before one undertakes to prescribe a remedy, unless he is willing to risk the imputation of being an empiric, and as there are

enough of such animals in this beautiful land of ours, our taste does not lead us to desire to swell the number. But we do recommend it, because, in each substance are to be found the food on which the potato delights to feed, as will be found to be the case on examining the analysis of its inorganic constituents. We use the word *food*, because we are among the number of those who entertain the opinion, that any substance may be legitimately so called, that is found by analysis, to form part of the structure of a vegetable production—that it is necessarily essential to its healthful growth and maturation, and in the absence of which from the soil, it is necessary that they be artificially supplied, or that, as a consequence, life cannot be sustained in its fulness and vigor.

ANALYSIS OF THE POTATO.

10,000 lbs. of the roots and stalks of the potato, when taken before drying contain

	In the Roots.	In the Tops.
Potash	40.28	81.9
Lime	3.31	120.7
Soda	23.34	00.9
Magnesia	3.24	17.0
Alumina	0.50	00.4
Oxide of iron	0.32	00.2
Silica	0.84	49.4
Sulphuric acid	5.40	04.2
Phosphoric acid	4.01	19.7
Chlorine	1.60	05.0

Let us see then, why this mixture will prove salutary in its effects and influences. The *ashes* will supply *potash, soda, magnesia, silica, alumina, sulphuric acid, phosphoric acid and carbonic acid*, as also *lime*: by the *lime*, that salt will be furnished, so will it also be by the plaster and ashes: the plaster besides affording *sulphuric acid and lime*, by the chemical affinity of its sulphuric acid, for the fertilizing gases of the atmosphere, and by its similar action upon those in the soil, will contribute largely towards husbanding and holding available, much ammoniacal food for the plants, as it may be called for by their wants, which would otherwise be dissipated and lost: the *salt* will dispense a supply of *soda and chlorine*; the first of these is proved to be indispensably necessary from the fact, that in the roots of the potato it is found in greater abundance than is that of any other substance, among its inorganic elements, except *potash*; again, *salt* will also furnish *chlorine*; but independent of its contributory action, *directly*, in building up the inorganic structure of the potato, it will, like plaster, perform a most important office, through its *muratic acid*, in attracting and fixing ammonia—in this respect it will act with more promptness than plaster, owing to its more easily yielding to the laws of decomposition.

1. *Alumina and Silica* abound in every soil, but as found in ashes, having once formed part of a living body, we should presume that they are in a more favorable state to be partaken of, than is that in the soil, before being acted upon by the alkalis.

2. *Sulphuric Acid* exists both in ashes and plaster, though to a much greater extent in the latter.

FALL TURNIPS.

We are satisfied that farmers grow these roots too sparingly, and that, if they were to turn their attention to their cultivation they would thereby greatly promote their interest, besides adding much to the comfort of their stock. If grown as cattle feed, it would be well to cultivate the more hardy

kinds—among these stands pre-eminent the *Rutabagas*, but unless they be sown in the beginning of this month, it will be too late to grow them with any prospect of succeeding in making a heavy crop—next to this variety, may, perhaps, be ranked *Dale's Hybrid*, and *Yellow Aberdeen*, and *Yellow Stone*. They are hardy and keep well till spring. For table use, the *Red-top* is our favorite,—the *Norfolk*, will however yield more. New ground, it is generally conceded, is best adapted to the growth of turnips, probably because of the abundant supply of potash it finds therein; the best crop we ever grew was upon an old pasture, which had been used as such for the space of 12 years.—The soil was a deep sandy loam, and had at the time a pretty fair sward of grass upon it, which, after broadcasting over it a liberal dressing of manure, we ploughed in fully 8 inches in depth, harrowed and rolled, then applied a lighter dressing of well rotted barn and stable manure, then ploughed it in 4 inches deep, harrowed, and cross-harrowed, rolled, sowed the seed, top-dressed with a mixture of 10 bushels of ashes, 1 of plaster and 2 of salt per acre, harrowed the seed in lightly with a light one horse harrow, and completed the work by rolling. When the plants first came up we sprinkled them over with fish oil, each morning, early, until they got into the rough leaf; strewed a bushel of plaster and 2 bushels of salt per acre, over them when they got into the rough leaf. When they had *bolted*, as the phrase is, and the roots had got to be about the size of a walnut, we ran the cultivator through them, with the double purpose of working and thinning them. In a week or 10 days, we worked them with the hoe, thinning them out, so as to stand from 8 to 10 inches, and in about the same length of time, gave them a final working with the hoe, taking good care to eradicate the weeds and grass, and stir the ground well, without covering the roots. The variety was the *red-top*; time of sowing 25th of July—product large; turnips among the sweetest and best flavored we ever recollect to have tasted.

To arrive at what inorganic manures are best adapted to the turnip, it will be necessary to ascertain what are found in their ashes, and with that view we give below the following

ANALYSIS OF THE TURNIP.

	Roots.	Leaves.
Potash	23.86	32.8
Soda	10.48	22.2
Lime	7.52	62.0
Magnesia	2.54	05.0
Alumina	0.36	00.3
Oxide of Iron	0.32	01.7
Silica	1.37	0.84
Sulphuric acid	2.70	5.40
Phosphoric acid	5.14	4.01
Chlorine	0.70	1.60

From the inorganic constitution of the turnip, as exhibited by the above analysis, it is very obvious why dressings of ashes so favor their growth, and urge them forward with such vigorous health to maturity, and why it is, that salt and lime are found so congenial to them. In the root of the turnip we find that nearly twenty-four parts of its inorganic constituents, in the quantity named, consist of potash, while the proportion found in its leaves exceeds 32 parts—that in its root we find more than ten parts *Soda*, and in its leaves upwards of 22 parts—of lime the root contains more than 7½

parts, while the leaves contain 62 parts. It must then strike the observing mind at a glance, that no matter what other manure we may give to the turnip, that *ashes*, or *potash*, *soda*, and *lime*, must be of the number, unless they are present in the soil in which it may grow, independent of the *organic manures* we may apply. And that *ashes* above every thing else of an *inorganic* nature, is the most acceptable, when only one mineral manure may be used, for the simple reason, that they contain, within their own body, every thing of that character found in the turnip, and in most if not all other vegetable products, as will be demonstrated by the subjoined

ANALYSES OF WOOD ASHES.

	Red Beach.	Oak.
Silica	5.51	26.95
Alumina	2.83	
Oxide of Iron	3.77	8.14
Oxide of Manganese	3.85	
Lime	25.00	17.38
Magnesia	5.00	1.44
Potash	22.11	16.20
Soda	3.32	6.73
Sulphuric acid	7.64	3.36
Phosphoric acid	5.62	1.92
Chlorine	1.84	2.41
Carbonic acid,	14.00	15.47
	100.	100.

In the 10 bushels of ashes, if *unleached*, and made from hard wood, there would be, if they had been kept dry, about 55lbs. of potash, about 11 lbs. of magnesia about the same quantity of Phosphoric acid, and more than 3½ bushels of Lime:—if the ashes had been previously leached, the potash would not be more than 10 or 12 lbs. The other substances would be about the same, as they are not liable to be leached out. As to the other constituents of ashes, they would bear a due relation to their respective per-centages, and be found, like the preceding, aided as all would be, by the inorganic matters in the soil, and in the putrescent manure, to yield a sufficient supply of such food to the turnips. Ten bushels of such ashes as we have described would contain about 15 lbs. of sulphuric acid. The proportion of lime in the leached ashes of the soap boilers is much greater than is found in ashes in their natural state, as they add a considerable quantity of lime to increase the causticity of their ley. Often in a hundred bushels of such ashes there are as much as thirty two or three bushels of lime; so that he who applies ashes to his land limes it at the same time.

MANURES—KINDS—QUANTITIES.

We have in the preceding part of this article stated how we successfully manured for turnips, how we prepared the ground, and how we cultivated them, and really with the ordinary supply of manures accessible to most farmers, we hardly know how we can well enlarge upon the subject. Bone-dust decomposed with sulphuric acid, and mixed with guano, or rape-dust, has been found in England to answer well; but as we wish to be practically useful to our readers, we shall state such substances as are within their reach. In our directions last year, we gave 10 formulas, either of which were calculated to grow an acre of turnips. These of course, it is not our purpose to repeat; but would refer our readers to page 9 of the last volume for the information. We will, however, give

one other formula of materials most of which are to be found on every farm—and the others easily obtained. It is this: mix 5 loads of well rotted stable manure, 5 loads of well rotted cow dung, with 10 loads of marsh or river mud, or woods-mould, 10 bushels of ashes, 2 bushels of salt, and 1 bushel of plaster, together, layer and layer about, throw them into bulk, and shovel them over once or twice before you apply them to your ground, and if the season be favorable, and you attend to their culture in the way previously indicated, a good crop of turnips must be the result. The quantities named, is for an acre of land. One-half the manure should be ploughed in, the other half, harrowed in.

PREPARATION OF THE SEED.

Soak the seed 24 hours in fish oil, then drain off the oil, and mix the seed with double their quantity of ashes, slaked lime, or plaster, or the three substances mixed together, in even quantities, so as to render the seed easy of being sowed.

QUANTITY OF SEED PER ACRE.

If the sower be skilful, 1 lb. of seed will be amply sufficient; but, perhaps, with the view of guarding against accidents, it might be best to sow $1\frac{1}{2}$ pounds.

TIME OF SOWING.

Our favorite time for sowing, 25th of July, because, if the plants should be destroyed by the fly or flea, there will be time enough left to resow in good season. Others prefer waiting till August—some fancy that the 10th of that month is the most auspicious period—a very good time, by the bye, if the plants escape their natural and most inveterate enemies; but too late in the event of their being cut off. For ourself, we go in for earlier seeding, and for the reasons stated. If the *Yellow Stone*, *Yellow Aberdeen*, or *Dale's Hybrid*, be sown, their time of seeding should not be delayed beyond the 25th of July, or 1st of August, and might be advantageously put in—season being favorable, as early as the 20th of this month, as they require longer time to mature than do most other varieties.

MODE OF SOWING.

Drilling the seed in with a drill, is the best method; but broadcast sowing will answer very well, if care be taken in their culture, and pains in thinning them out. We have grown them both ways, but prefer the first, it being the neatest, and we know, when grown in that way, will produce the largest crops.

Distances.

If grown in *drills*, the drills should be 12 inches apart, the plants thinned out, so as to stand 8 inches asunder. If sown *broadcast*, thin them out 10 inches apart.

In conclusion, let us assure you, the conditions necessary to success, are, ample manuring, with the right kinds of manure—deep ploughing, thorough pulverization of the soil, and cleanly culture. With a strict observance of all these conditions, a good crop may be expected, unless the season be such as to forbid their growth.

EXAMINATION OF PEACH TREES.

If you did not examine the roots of your Peach trees last month, do so this, and treat them as we advised in our last month's talk.

ORCHARDS.

Apples—If the trunks of your apple trees are in

a bad condition—if they be scabby, mossy, or rosy, have them scraped, and treated to the soft soap mixture we have so often recommended; but whether the bark be in the condition we have named or not, dress them with the soft soap mixture.

If the caterpillars are rife with the foliage, destroy them.

Have all the fallen apples and other fruit picked up and given to the hogs: by previously cooking them you will add greatly to their value as food.

Peach, Plum and Cherry trees.—Any blighted limbs on these should be cut off and burned. Cut into the sound wood, smooth the face of the cut part with a drawing knife, or other sharp implement, cover it with a mixture of rosin and tallow, reduced to a salve-like consistency over a slow fire, and sand dust it as you put on the mixture.

Manuring Orchards.—If your orchard has not been recently manured, form a compost of 20 loads of marsh mud, river-mud, or woods-mould, 10 bushels of ashes, 2 bushels of salt, 1 bushel of plaster and 2 bushels of bone-dust, per acre, spread it evenly in that proportion over the surface of your orchard, plough it in from two to three inches deep, then harrow and roll, and if the next season be the bearing one, your trees will yield you much more fruit, and that of a greatly improved quality, and so continue for several years, if your orchard be periodically ploughed and treated as above.

BUSHES, BRIARS, BRAMBLES, SPROUTS, WEEDS.

These pests of the farm should be eradicated from the lines of your fences, and from your fields. They rob the products of your soil, rot your fences, and reflect disadvantageously upon the farmer or planter who permits them to grow upon his lands. This month and the next are favorable ones for the performance of this labor. If you have gullies on your cultivated fields, put them therein in order to arrest further mischief, in order that they may, in their turn, do you good for the injuries heretofore inflicted upon you. If you have no gullies, burn them, and take care of the ashes they may make, for if protected from the weather, in every five bushels of ashes you will have the organic elements of 25 bushels of wheat, or a fair crop of corn. Recollect, that it is in attending to small matters like this, that you will secure the road to prosperity and fame—to that fame that will make your neighbors respect you.

ATTENTION TO ROOT CROPS.

Keep your root crops clean from weeds and grass, and the soil open to the fertilizing influences of the atmosphere.

MATERIALS FOR FORMING COMPOST MANURE.

We know that those who live convenient to seaports where supplies of Guano can be obtained, and who have the means of purchase, will avail themselves of this wonderful crop-producing manure; but as there are hundreds of thousands who are not thus favorably situated, let us conjure all such to use every means within their power to collect substances to form into compost manure; and that no one need be at fault in the collection of materials, we will repeat, that *peat*, *marsh mud*, *river and creek mud*, *leaves and mould from the woods*, *pine shatters*, *weeds*, *sedge-tussocks*, *ditch scrapings*, *road-scrapings*, the earth from the *head-lands*, *fence-sides and corners*, *grass*, *sea-weeds*, *eel grass*, *all animal refuse matters*, *rags*, *scraps of leather*, *horns*,

hair, fish and other bones, crab-shells, egg-shells, scrapings from the wood yard, chips, soap-suds, pot-liquor, urine, and all the scrapings and refuse around and about your dwelling, and its dependencies—we repeat that all such, and every kindred substance, are good materials to form parts and parcels of the compost heap.

FORMATION OF THE COMPOST HEAP.

To every two loads of the rough materials, add 1 of stable or barn-yard manure—and for every 20 loads, add 1 bushel of Plaster, 2 bushels of salt, and 5 bushels of ashes—incorporate the whole together, layer and layer about, let the upper layer be of the rough matters, and pat the whole well together with the back of a shovel, and you cannot fail, at the end of a few weeks, of having a body of the most enriching nutritive manure, fully equal to the best barn yard and stable manure, in the promptness of its action, and infinitely more lasting, in its effects. In applying the soap-suds, urine, pot-liquor, and household slops, open several holes throughout the compost heaps, mix a little plaster with the liquors before pouring them on; having done so, fill up the holes, and pat down the earth. Such compost heaps should be examined every 10 or 14 days, and if found *hot*, should be shoveled over, and have the earth compressed with the back of the shovel again. 20 double horse loads of compost made thus, will be sufficient to manure an acre of ground so as to put it in a state to bring from twenty to thirty bushels of wheat, bear 2 crops of clover, while the ground, at the end of the time, will be in a highly improved condition, or to bring from 30 to 50 bushels of corn to the acre, provided the season be favorable, and the corn be properly cultivated, and to carry the soil through whatever may be the usual rotation. The labor of preparing manure in this way would be costly in the beginning, but would be sure to bring rich reward in the end, as it would secure good crops, increase the absorbent and retentive powers of the soil, and as a consequence, make the manure more durable, while it would leave the land in a highly meliorated state at the end of the rotation—provided your wheat crop was seeded to clover and grass. We prefer clover and orchard grass, to clover alone, for while the orchard grass does not interfere with the meliorating effects of the clover, the admixture of the two, makes a heavier crop, better hay, and relieves the cattle from all danger of being hovened while feeding on the pastures.

WET LANDS.

All wet lands should be ditched and under-drained, for it may truly be said to be throwing time, labor, money and manure away, to cultivate lands that are surcharged with water. To lime or manure such lands is only a waste of time and means.

PLOUGHING.

In ploughing your ground for your fall crops, plough deep, and thereby give them a deep pasture to feed on—a deep bed to protect them from excess of drought or moisture, and to keep your land from washing. Don't be alarmed at turning up a little of the hard-pan—thoroughly pulverize by harrowing and rolling, and let in the atmosphere, and then apply a little lime slaked with salt brine, and you need not fear the "hard-pan," provided you harrow the lime in, and have previously turned under a good dressing of nutritive manure.

LIMING AND MARLING.

If the land requires liming or marling, after you have manured, ploughed, harrowed and rolled your land, then broadcast your lime or marl over it, harrow it in, then sow your wheat, harrow, or plough, that in, taking good care, if the plow be used, not to bury the wheat more than 2 or 3 inches at farthest—finish by rolling. Lime that is to be used upon land manured with guano, must be slaked with a supersaturated solution of salt, to prevent the lime from driving off the already formed ammonia, or that which may be formed in the process of decomposition.

Preparation of Guano.

Moisten your guano with a strong salt brine, have all the lumps thoroughly broken by the back of a spade or shovel, and then with every 100 lbs. of guano mix 25 lbs. of plaster, and 1 bushel of salt. This will prevent all loss from evaporation, or escape of the ammoniacal gases—or you may mix with every 100 lbs. of guano, 2 bushels of pulverized charcoal, and moisten the guano with a strong solution of copperas.

MEADOWS.

As next month will be a good time to set new meadows,—during this, prepare the necessary supplies to give your land a good dressing of such manures as we have named in our "*Essay on Meadows, and their management, and the cultivation of Grasses, &c.*" which we published in April and May of last year, and which may be found in Vol. 6, page 333 of the April number, and page 389, of the May number,—and we also refer you to the Essay for all the necessary information connected with the subject.

BUCKWHEAT.

You may sow buckwheat as late as the 10th of this month.

MANURE FOR BUCKWHEAT.

On poor land 10 bushels of ashes and 5 bushels of bones, will bring a good crop—so will 200 lbs. guano and 2 bushels of salt. The bones must be moistened before being mixed with the ashes—the mixing must be thorough. The guano should be prepared as we have previously stated under the head of "preparation of guano."

BROADCAST CORN.

Put in an acre of broadcast corn, in order that your cattle may have something to eat when the grass of the pastures is parched up. For the mode see last month's work on the farm.

FENCES.

Personally examine the whole line of your fences, and have all necessary repairs made without delay. As the grass of the pastures become burned up, cattle are very apt to look out for weak places of the enclosures of corn-fields in search of food.

THE FARMER'S CYCLOPEDIA.—The Revd. Dr. Blake has just published a work bearing the above name. The subjects treated of are alphabetically arranged, and convenient of reference. The book treats of most of the subjects connected with the business of the farmer, and contains a great deal of useful matter. To the man of leisure, having a passion for agricultural science, its brevity would perhaps be an objection; but to the great body of the agricultural community would be esteemed as a virtue, as but few men actively occupied in the cultivation of the soil, have time to read and profit by long essays. The book is well gotten up, and evinces great industry and research in the author.

WORK IN THE GARDEN.

JULY.

If you desire your garden to be well stored with vegetables, for home use, or to sell, and be secured in a good supply for the approaching fall and winter use, as well as for use next spring, and every owner or occupier of a farm should look to each and all these contingencies, as there is nothing more conducive to the health of one's family than a varied and plentiful supply of vegetables in their diet—nothing more conducive to comfort in culinary arrangements, and nothing, in the event of finding a market for portions of the products of the garden, which more readily and profitably commands the ready penny. The time has arrived when time is time, and delays cannot be indulged in, except at imminent peril of losing the favorable opportunity of having your garden well stocked.

With these brief remarks we shall proceed at once to point out certain things that should demand immediate attention.

CLEANING OFF BEDS.

If you have any beds whereon you have grown an early crop, have them cleaned off, manured, spaded, and raked, to be in readiness to receive your late crops.

MELONS, &c.

Melons, Canteleupes, Cymbkins, and all other vegetables of this family, should be kept clean of weeds and grass, and in times of drought, should be well watered, as they are all sensitive upon that point, and cannot do justice to their natures unless they have moisture.

MANGOES.

Between the first and 10th of this month plant a bed of melons for mangoes, and after planting them, do not let them suffer for any thing necessary to promote their growth. We have often heard persons say that they had tried *all sorts of plans* for growing canteleupes, water melons, &c.; but if any one had taken a peep into their patches, the reason would have been obvious enough to the observing eye—it would have been plain that they had died of neglect—a death that many a bed of early promise has been consigned to.

CUCUMBERS.

Prepare a bed and plant cucumbers for pickles.

CABBAGE PLANTS.

Seize the opportunity of the first rain this month to set out your cabbage plants for fall and winter use, and be sure to have enough of them to carry you through till next spring. The dinner table without a good supply of vegetables, no matter how many dishes of meat and fowl there may be upon it, is after all, but a desolate looking affair. If you have not been provident enough to have raised plants, yourself, buy some of your more notable neighbors. In planting, be sure to have a fair proportion of *Savoy*s, for it is among the best of its tribe, after it has been touched by the frost.

MANURE FOR CABBAGES.

The cabbage is a gross feeder; therefore the bed intended for them should be liberally dressed with putrescent manure, the richer the better. Besides organic manure, it should have a very free dressing of ashes, as it delights in potash and its other constituents. If your supply of ashes are not sufficient to give your bed a good dressing, water them once a week with the soap-suds made in your fam-

ily. No better manure can be given them. You must not neglect to give your cabbages occasional dustings with plaster. In times of drought your cabbage beds must be freely watered, as without moisture to prepare their food, and enable them to digest afterwards, they will not prosper.

DRAWING AND MANAGEMENT OF THE PLANTS.

Prepare in a piggan, tub, or bucket, a mixture consisting of 1 gallon fine mould, 2 oz. flour of sulphur, 1 pint soot and 2 oz. scotch snuff, reduce these to the consistence of cream, with water. As you draw the plants from the seed bed, place them in the mixture as far up as the leaves. This mixture operates a triple good, it prevents the plants from withering—it operates as a manure—and it renders the cabbage plants distasteful to those worms which cut them off when first set out.

BUNCH BEANS.

At intervals of ten days throughout this month sow bunch beans, and thus secure a continuous supply for early fall use.

If after planting your beans, the weather should prove dry, you must be careful to have the rows watered every evening, or every other evening, just about sun-set, until rain occurs. Give to your beans when they come up occasional dustings with a mixture composed of equal portions of plaster and ashes. In manuring at this season, use decomposed manure, if you have it, if not any good rich compost will answer, but will be all the better for having ashes, salt and plaster mixed with it, or broadcasted over the ground; for among the inorganic constituents of Beans, potash, soda, lime, magnesia, sulphuric acid, and phosphoric acid, hold conspicuous places, all of which may be found in the three substances we have named. 10 bushels of ashes, 2 of salt and 1 of plaster, will furnish the needful supplies for an acre; though so far as the phosphoric acid may be concerned, the supply would be more certainly found in a bushel or two of bone dust, dissolving either in dilute sulphuric acid, or boiled in ley until dissolved. Those, however, who cannot procure the mineral substances we have enumerated, may rest contented, in the chances of a good crop, if they will only give plenty of barn-yard manure, or of any compost rich in vegetable and animal remains. A very good compost might be formed by those living on salt water rivers or creeks, by mixing 7 parts of river mud, 1 part fish, and adding 1 bushel of plaster to the quantity intended for an acre. If composted together layer and layer about for two weeks, and then thoroughly mixed it would be fit for use.

ENDIVES.

If your Endive plants are ready set them out. If you have none sow seed for a later crop.

CAULIFLOWERS—BROCCOLI.

Set out your Cauliflower and Brocoli plants for fall and winter use. Choose a showery time to do so.

EARLY TURNIPS.

If your ambition leads you to have turnips on the table, in advance of the farm crop, have a loamy bed selected, manure it with a compost formed of two parts woods-mould and one part barn-yard manure, or stable manure, add to these materials as you form them into compost, as much ashes as would be at the rate of 20 or 30 bushels to the acre. After your compost has laid in bulk for a week shovel it over, so as to mix the several

substances together. Then spread evenly one half of it over your bed about 2 or 3 inches deep, and spade it in to the full depth of your spade. Have your ground spaded in narrow slices, and thoroughly raked as the spading progresses—say when three feet of spaded ground is before the spade. This timely raking prevents the compression of the ground with the workman's feet. Let the raking be thoroughly done. Then spread on the other half of the manure and rake that in; this done sow your turnips thinly, rake them lightly in, and finish your work by passing a roller over the bed, or patting it down with the back of a shovel. Then freely dust the bed with a mixture of 2 parts ashes and 1 part salt.

PREPARATION OF THE SEED.

Soak them 12 or 24 hours in fish oil, at the end of which time drain off the oil, and mix three or four times their bulk of ashes, or ashes and plaster with them, so as to separate the seed and render them easy of being sown. If you have no plaster, soot may be used in its stead.

CULTURE.

When the turnips first come up sprinkle fish oil over them, at the same time give them a dusting with a mixture of ashes, plaster and soot. Repeat this *each morning*, early, until the turnips get into the rough leaf. When they have formed a bulb, or bottle to use the familiar phrase, of the size of a bantam's egg, thin them out so as to stand 8 or 10 inches asunder each way, dress the ground with the hoe, so as to effectually destroy all weeds and grass. Repeat this dressing at intervals of a week twice thereafter, and you may be assured of a good crop of sweet turnips.

RUTA BAGA TURNIP.

This variety of the turnip keeps well through the winter, and is an excellent vegetable for spring use. Therefore select a bed similar to the one just described, and manure it in the same way, dig the ground in the same way, and then form *drills*, by your garden line, 12 inches asunder, 1 inch deep, and drill in your seed thinly, cover with the rake, and compress the soil of the rows with the back of your rake, or shovel.

CULTURE.

The same as for the other turnips,—but be sure to sow them from the beginning till the middle of the month, as they require longer time than the other varieties to grow.

LETTUCE.

If you have plants, set them out to head the first rain, and sow seed for later crops.

CELERY.

The first rain that occurs plant out your fall and winter crops of celery. If drought should intervene, be sure to have the plants regularly watered. Until the plants take root and begin to grow freely they should be protected from the direct rays of the sun, by being shaded.

RADISHES.

Sow seed every week during the month, to have successive supplies of crisp radishes.

SOWING EARLY CABBAGE SEED.

Sow seed of early varieties of cabbages to secure supplies of greens for early fall use. They are both delicious and healthful.

GATHERING HERBS.

Cut your pot and medicinal herbs—dry them in

the shade—when dry tie them up separately in suitable bundles, carefully marking each one, and put them away in a convenient airy dry room.

SETTING OUT HERBS.

Slips of most varieties of herbs may still be set out—when set out they must not be permitted to suffer for water. They should be set out during or just after a rain, and would be better of being protected by some slight shading.

SOWING SAVOY CABBAGE SEED.

If you have no plants, you can still sow savoy cabbage seed up to the 10th of the month.

EGG PLANTS, TOMATOES, PEPPERS.

Plants of these for the late crop may still be set out; but don't delay it beyond the 10th of the month, and be careful to water every evening, if the weather be dry, until the plants begin to grow freely, and afterwards, should drought be of any long continuance.

GARDEN PEAS.

In the beginning of this month plant a few rows of garden peas for late use.

BUDDING.

Plums,—Cherries. These may be budded during this month any time after the middle of it. It should be performed in cloudy weather.

INOCULATING.

Towards the latter part of this month is a good time to inoculate pears.

WATERING THE GARDEN.

See to it, whenever dry weather occurs, that your gardener makes a free use of the watering pot, for neither vegetables nor flowers will flourish under the influence of a parched up soil.

For the American Farmer.

HARVESTING AND CLEANING CLOVER SEED.

MT. VERNON, BUCKINGHAM, May 17, 1852.

Mr. Sands:—Enclosed I send you one dollar, which is my subscription to July 1st,—'52. Your paper I consider of inestimable value, and being a young farmer would be pleased to hear from you upon the subject of saving Clover seed. Also if there will be much benefit derived from sowing the Shinney pea at the last cultivation of corn, for a wheat fallow.

Respectfully yours,

C. GLOVER

For seed the second crop of clover is best, as there are fewer weeds among it. The field is sometimes grazed until June, when the cattle are turned out, and the second growth reserved for seed. When the seed is *thoroughly ripe*, the clover is mown, thrown into small cocks; these cocks are turned from time to time, with care, until perfectly dry, when they may be taken to the threshing floor, and threshed with the flail, or trodden out by horses. They are sometimes cleaned by clover mills. Many farmers in Pennsylvania prefer the plan of treading out the seed with horses. A clear windy day is chosen for the operation, in order that the finer parts of the chaff may be blown away by the wind. A fan or clover machine is used for cleaning the seed for market, or sowing. Some farmers use a machine to cut off the heads, and sow the seed in the chaff, allotting 1 bushel of chaff to the acre, which plan we think slovenly.

ATOM—the smallest particle of matter necessarily incapable of further division.



BALTIMORE, JULY 1, 1852.

TERMS OF THE AMERICAN FARMER.

\$1 per annum, in advance; 6 copies for \$5; 12 copies for \$10; 30 copies for \$30.

ADVERTISEMENTS.—For 1 square of 12 lines, for each insertion, \$1; 1 square, per ann., \$10; $\frac{1}{2}$ column, do. \$30; 1 column, do. \$50—larger advertisements in proportion.

Address, SAMUEL SANDS, Publisher, At the State Agricultural Society Rooms, No. 128 Baltimore st. over the "American Office," 5th door from North-st.

PREMIUMS TO AGENTS.

In accordance with our usual practice the following premiums will be awarded to those who send us the largest lists of subscribers, up to 8 o'clock on the first evening of the annual meeting of the State Agricultural Society, viz:

For the largest list, with the cash,	\$50
" 2d do do	35
" 3d do do	25
" 4th do do	15

The subscriptions will be received at the club prices, viz:—6 copies for \$5; 13 copies for \$10, and 30 for \$30, and may be sent on from time to time, as obtained, to the hour indicated, when the decision will be made, and the premiums awarded in cash, silver plate, or agricultural implements, at the option of the agent. All communications to be addressed to SAMUEL SANDS, Publisher, 128 Baltimore st., Balt., Md.

We send with the present No. copies of our Prospectus for the 8th volume, which we hope those to whom it may be sent will either take charge of, or place in the hands of some suitable person who will act as agent for us.

MARYLAND AGRICULTURAL SOCIETY.

The quarterly meeting of the Executive Committee of the Maryland State Agricultural Society, will be held on the first Wednesday in August, at 10 o'clock, at the Hall of the Society, in Baltimore. By order, SAM'L SANDS, Sec'y.

NEW VOLUME.

We enter to-day upon the commencement of a new volume of the *American Farmer*. In so doing we return our most grateful acknowledgements to our patrons and friends, who have so liberally patronized and sustained us through the past. Looking to the future, we can only say that the same industry and zeal shall be continued to preserve the good opinions of our subscribers, as have, hitherto, served to establish for our journal a reputation as flattering to our ambition, as its benefits to the cause of agriculture have been marked and salutary. It has been our pleasure to make our paper so general in the subjects discussed, and so universal in its principles, as to suit one section of country as well as another. In agriculture, as in every other art and science, there are certain great principles, which spurn all territorial limitations, being to the "manner born" in all localities. To spread such principles abroad, broadcast, has been among the most pleasing of our duties, because we believed them best calculated to

promote the greatest amount of agricultural prosperity. But while assiduously seeking the dissemination of this great leading object, we have been equally mindful in catering for things locally interesting in every state, and section of State, wherein our journal circulates; and where does it not circulate?

Pledging our best efforts to render our Journal useful and instructive, we invoke the aid of our kind friends to us in extending its circulation.

A Strong Recommendation.—During the past month, a number of our subscribers have promptly renewed their subscriptions for the volume which commences this day. We feel highly flattered and extremely gratified with the very kind and complimentary letters which we have received of the value and effect of our journal upon the agricultural interests of the Middle and Southern States—and we hope we may be pardoned for introducing the following, received through the P. M. of Millville, King George Co. Va. on remitting the subscription for vol. 8, for Col. T. B. Baber—"Col. Baber has requested me to say, that the benefits derived from reading the Farmer will pay for his subscription for 200 years.—Geo. H. Robinson, E. M."

THE PRIZE ESSAYS—which are presented in our pages of this month, will, from the importance of their subjects, command the earnest attention of every reader.

To Correspondents.—We are compelled to omit again the continuation of the paper on the culture of Lucern.—We have, however, an article on the same subject in this No.

A reply to the letter of D. White, Jr. of North Carolina, is unavoidably crowded out.

A communication from Jno. Parker, Esq. of King George, Va. is received, but our pages were already more than filled before it came to hand; also, the inquiries of "A Subscriber" of K. & Q. Co. Va. concerning the Joint-worm, and other diseases of Wheat, from Orange Co., Va., and those from Halifax Co., N. C.

THE TRIAL OF REAPERS, as heretofore announced, will take place at the farm of the Hon. Edward Lloyd, near Easton, Talbot Co. Md., on Wednesday, the 7th July, inst. The steamboats leave Baltimore on the 5th and 6th, and return on the 7th, 8th, 9th and 10th, and will transport all machines intended for exhibition, free of cost.

The committee of Gentlemen appointed by the Maryland State Agricultural Society to witness and report upon the operations of the **WHEAT REAPER**, at Col. Edward Lloyd's, Talbot county, on the 7th instant, will be furnished with round trip tickets in the steamer Hugh Jenkins, free of charge. By order of the Board of Directors.

JAS. T. EARLE, Pres. E. S. Steamboat Co.

Magnesian Lime.—Col. B. J. Heard, of Chaptico, Md. asks for information as to the price of Magnesian Lime, delivered on the Patuxent river, say 15 or 20 miles above its mouth.—5000 bushels would be contracted for by Col. H. and two of his neighbors, and no doubt a much larger quantity by others, if it could be delivered in time to be used next Fall.—We wish those engaged in the business would respond to the call. There is an increased demand for this lime, and dealers would do well to advertise in our pages.

LOBOS ISLANDS GUANO DEPOSITS.—Considerable excitement has been recently evinced in the commercial and agricultural districts of England, in consequence of the discovery, that the Lobos Islands on the coast of Peru, contain deposits of Guano of equal value and perhaps to the same extent, of the Chincha Islands. An earnest effort was made to induce the present Cabinet of England to declare these islands free to the commerce of the world; but after the representation of the Peruvian Minister to the Court of St. James, that his Government claimed and would enforce its claims upon these islands, it was conceded by the British Government that Peru had a right to them—tho' notice was given at the same time, that the British commerce, there, would be protected by its naval marine. It is contended that in the list of islands claimed by Peru when she established her independence, the Lobos were not named, and that the guano was subsequently discovered by Capt. B. Morrell, an American citizen, who in 1823, surveyed the coast, anchorage, harbour, &c. and published his information to the world; that consequently Peru has no exclusive control over them—and an appeal is made in the English papers, to the American government, to assert its just claims to them.

We are not aware that this matter has been, in any official manner, brought to the attention of our government, but it is a subject worthy its most serious consideration.—If we have rights by discovery, as alleged, it is due to the American people that these rights should be enforced, more especially as the Peruvian government is acting so ungenerous and selfish a part with those islands under her controul containing similar deposits of Guano, by which an odious monopoly is kept up. If she would throw open the trade to the world, allowing every vessel, applying, on the payment of a certain reasonable price, to obtain a cargo, she would not only realize a greater revenue herself, but would tend to the enriching of other nations.

We hope this subject will attract the attention of the Agricultural Convention to meet at Washington a few days hence of this writing. Let our government be urged to investigate the subject, and if on finding that our claims are just, and that Peru has no exclusive rights to them, give notice to the world, that our merchantmen shall be protected in their trade with the Lobos Islands, and we would soon find that the price of Guano would be reduced to near half its present exorbitant price.

P. S. After the above was in type, we notice the following paragraph in the papers of this city. "A despatch from Washington states that the Government has ordered the Pacific squadron to cruise near Lobos, for the purpose of protecting American shipping engaged in gathering guano."

If this statement is correct, and we have reason to believe it is, from information just received from another source, we may soon look out for Guano independent of the Peruvian monopoly.

Since the above was prepared for the press, we have attended the Agricultural Convention at Washington, during the sitting of which it was announced by Mr. Holcomb, that orders had been given by the government in accordance with the tenor of the information contained in the above paragraph. This will no doubt induce American vessels to load at these islands with guano, and it will cause a considerable decrease in the price of the article when they arrive, but whether any of

them can reach here in time for use this Fall, we are not able as yet to determine.

[The Peruvian Consul at Baltimore, has just given notice that vessels taking Guano from the Lobos without its authority, will be seized by the Peruvian government.]

GUANO AGENCY.—The advertisement of Messrs. Barreda & Bro. (of the Lima Peruvian house,) who are the sole Agents or contractors in the United States, for the Government of Peru, will be found on another page.

We would refer also to the advertisement of Mr. Fitzhugh Coyle, who has been appointed the Agent of Messrs. Barreda & Bro. for the District of Columbia, and have established a depot at Georgetown and Washington, for the accommodation of those who are more convenient to the trade of those cities. Farmers of course will consult their own interest in looking to the facilities of carriage—as to terms and faithfulness in business transactions, we have no hesitation in expressing our belief that Mr. Coyle will be found all that every farmer may require.

Guano.—Imports into Baltimore from May 1st to June 20th, inclusive, viz:—Ship Persia, 499 tons; barques Louisa, 220, Louise, 296, Thames, 407, Jane Remozine, 400, Norfolk, 450, Amara, 550, Fortescue, 350, Chimborazo, 560, brig Diana, 250, seahr. Jane Jones, 144—Total, 4,100 tons. (Others have since arrived.)

Prices and terms of the Importers:—51 to 100 tons, 3¢ cash; 101 to 500 tons, 3½¢, 1-3 cash, 2-3 3 mos. credit, 4¢ per cent. discount; 400 to 500 tons, 3½¢, 4 mos. credit, on 2 per cent. discount; 30 cts. per ton to be paid upon the guano inspected—deliveries in parcels of 51 tons, and the term to be considered from the date of each delivery—the guano put in good bags—the ton to be 2,240 lbs.

At the present time there is but little doing in this article—and the quotations we give are merely nominal.

Peruvian—Under 10 tons 44¢; 10 to 40, 44¢; Over that quantity, 42.50. Patagonian—22.50 a 43¢, according to quality and quantity. Mexican, 25¢. Large lots might be had lower.

DESTRUCTION OF WHEAT BY THE JOINT WORM.

We are greatly pained to learn by letters from Orange County, Va. that great ravages to the wheat crops there, have been made by the joint-worm. This same enemy swept over the wheat fields of Maryland from 1807 to 1830, doing more or less injury—sometimes to an extent that rendered it useless to harvest the crop, and as far as we can learn, proved to be without a remedy. We shall give the subject a thorough investigation in our next. We should be pleased if some of our correspondents would give us light upon this subject. We however fear the worm will run his course, like the Potato rot.

PRODUCE AGENCIES.—It will be seen by the advertisement of Messrs. Didier & Bro. that in connection with their Agricultural Implement business, they have made arrangements to conduct an agency for the sale of produce which may be forwarded to them.

Messrs. Coleman & Richardson, on Light st. wharf, have also commenced the same business; it will only be necessary to persevere in this agency for the attainment of important advantages both to the farmer and citizen. Those who cannot spare a hand to attend the markets, can dispose of their surplus produce through these gentlemen, the commissions being trifling in comparison with the expense of a personal attendance—moreover, at times the market is overstocked, and no place of deposit being at hand, the hucksters generally obtain the marketing on their own terms, and re-sell it at an enormous advance—whereas, if it could be placed in the hands of active and efficient agents, a fair price would be obtained, and all parties better served.—The gentlemen who have engaged in this business, we have full authority for saying, are reliable and active men, and we most cordially recommend them to the patronage of the farmers, and we hope our citizens will encourage their undertaking.

GUANO.—In the advertisement of Messrs. F. Barreda & Brother, No. 62 S. Gay street, Baltimore, on another page, the public are informed that they are appointed "exclusive Agents of the Peruvian Government for the importation and sale of Guano into the United States," and "that they have settled in this city, a branch of their Lima house (Peru) under the special direction of their partner, Mr. Frederick Barreda, with the object of performing all the business relating to that agency in the U. States."

They state that, "following the views of the Peruvian Government, whose wishes are to establish a *fixed and convenient price for this manure*," farmers can obtain the article from first hands "at the rate of \$46 per ton of 2240 lbs. put into good bags, for all quantities above 50 tons," with due notice that "all charges or fees now imposed or that may be hereafter imposed" by the laws of any State, will be added to the price above stipulated.

We are glad that the main agency of this trade is to be established in this city, but the farmers will perceive that the hopes of any material reduction in the price of the article, are not very flattering from this source.

That the prices fixed upon by the agents for the sale of guano, yield enormous profits, is universally believed to be a fact—but how to remedy the evil, whilst it is continued a monopoly, is the difficulty to solve. We did flatter ourselves, at one time, that some change would be effected in the trade through the instrumentality of our government, by breaking down this monopoly—but we have not, since that time, been able to discover that any thing has been done in the premises—and we almost despair of any change—more especially if the facts stated before the Agricultural Club of New Castle Co. Del. are correct, that high officials of the government of Peru are interested directly as partners in the monopoly. We copy a portion of the proceedings of the Club, at its meeting held on the 20th May, as they appeared in the Delaware State Journal. Of course we know nothing of the correctness of the facts stated, but if the Peruvian Minister is, as represented, connected with this monopoly in the manner represented, the agriculturists of the U. S. will be able to determine as to the probability of any reduction in the price of this article, the use of which is yearly increasing at an enormous rate. We have an interesting letter on this subject and on the use of guano, from A. B. Davis, esq., of Montgomery Co. Md. which we expect to publish in our next.

From the Delaware State Journal.

Mr. Holcomb read a letter from a highly respectable commercial house who have been largely engaged in the Peruvian Guano business, revealing some curious facts in reference to the history of this trade—its monopoly by a company, and the fact that official personages are concerned in it, and exhibiting the extortions practised on our farmers, in the prices demanded by this company. It was stated by a member of the Club that one individual in Baltimore is said to have realized near a quarter of a million of dollars in two years as his share of the profits; but the letter proceeds: "That Peruvian Guano can and ought to be introduced into our market at a lower rate than it is at present, few will doubt, and it appears to us, the failure of the efforts which have heretofore been made through our national government have, in a great

measure, been owing to the fact that the agriculturists making the endeavors have not been well advised of the conditions on which the article is at present furnished, and in consequence have not brought their efforts to bear on the salient point.—Had the committee of our Agricultural Society who visited Washington some three years since, taken counsel of our dealers—men whose occupation required they should post themselves up about the matter—it seems to us, a plan could have been devised to remove the restrictions on the trade, which ere this would have been crowned with success. The resolution offered in our Senate desiring to know if our citizens in procuring Guano, were placed on the same footing as the English subjects, was answered by your distinguished neighbor, as every intelligent dealer knew it would be answered, and there the matter rested. The efforts of our government should be applied to break up the system; as between England, France and the United States there is no discrimination against us. The "Guano Company," which supplies these three countries is composed in a measure, of persons in high official station under the Peruvian Government, with a sufficient number of mercantile men to manage the trading and the financial part of the operation; and this company formed with a view to profit and act as any intelligent merchants would—*furnishing the article at the highest rate the farmer will consent to pay*—without materially diminishing the consumption.

"Guano, we understand, is furnished to all the nations along the South American coast at the uniform rate of \$10 per ton on board ship, and it appears to us, our government should endeavor to have its citizens in this respect, "placed on the footing of the most favored nations." This we have a right to require, and this should be demanded, and there is no doubt but by a policy of this kind the Peruvian Government would derive a much larger revenue from this much coveted possession."

Formerly the freight paid on the article was from \$20 to \$25 per ton, but since the cession of California, it has been reduced to \$10 a \$12, and now we learn, vessels are offering there to bring it as low as \$7½ put on board, without obtaining freight. If at liberty, would not many of these vessels, by means of bills negotiated at Callao, purchase cargoes for the United States, and would not their owners feel well compensated, if they could in this market obtain an advance of \$12 per ton on the original cost. Our whalers also, if partially successful in procuring oil, would make for the Chincha Islands to fill up with Guano, and competition in this market would soon bring the price down to a living rate; and as the article would be sold from vessels without passing through the hands of agents, the farmer would be enabled to procure his ton of 2240 lbs. at about the following rates:

Cost on board vessel,	\$10
Freight, say	12
Bagging and Inspection,	3
Dealer's profit, say	2

Making the entire amount, \$27

In addition, the vessel would also derive a considerable profit from the gain in freight, as they purchase the Guano at the registered tonnage, and they mostly carry a much larger quantity.

"The negotiation on the part of our government should be made in Peru, as the Peruvian Minister

to this country is understood to be one of the Company, and of course his interest would be adverse to breaking up the present system. It should also be entered into early, that if successful it may go into effect as soon as the present contract expires."

"You ask our understanding of the nature of the contract under which Guano has been received.—The Peruvian Guano which has arrived in the United States the past year we learn has come from two separate and distinct parties. The Peruvian Government itself and the company alluded to above. But few more cargoes are to be received from the present company, and three more from the Government. A new company, composed mainly of the members of the former, then goes into operation, and subsequent receipts will be under the new arrangement."

Mr. Holcomb said it was understood that the late Peruvian Monopoly Company of Gibbs, Bright & Co. of England, had recently been succeeded by Theodore W. Riley & Co. of New York, though most of the old members of the firm were retained, including the Peruvian Minister to this country and his brother-in-law. Mr. H. said that selling manure at one hundred per cent. profit to our farmers was a new item in diplomatic intercourse, and in the business usually transacted by foreign Ministers.

WHEAT STRAW vs. SHUCKS.

An article with the above caption appeared in our last number, p. 418, giving the preference to wheat straw over corn shucks, as cattle provender. For the first time, that article met our eye after the paper was in form, or we should have felt it to be our duty to dissent to the conclusion of its author; but as it was too late to do so in our last number, we avail ourselves of the present one, to differ with him, and to question the justness of the conclusion at which he has arrived; and we shall do this in all courtesy, and in the most deferential spirit. As he has fed with both articles, it is due to him to say, that we implicitly believe in the sincerity of his belief, but as we think it not well grounded, we shall endeavor to show the reasons for our own belief.

When we commenced farming, the farm which we occupied had not on it a foot in grass, that could be cut for hay. It therefore, became necessary for us to husband every thing in the shape of long provender that we made, until we could set a meadow. Our Straw of all kinds, as well as Corn Shucks were carefully saved, and alternately, at intervals of a week apart, fed out to our cattle—for our horses we raised millet hay the first year, and found it a most excellent substitute for timothy, until our clover and timothy came to our relief the second year of our farming. We watched the feeding of our cows with straw, and with the corn shucks, and the conclusion we arrived at, was this, that they relished the shucks much better than they did the straw, and that the weeks on which they were fed with the latter, they looked better. This is our practical view of the case, derived from experience,—but as experiments unless properly conducted, and long continued, may be deceptive in their results, and as ours may have been so, we will give the theoretical views of the subject as demonstrated by analyses.

"Boussingault who considers the relative nutritive value of the vegetable substances employed for fodder to be indicated by the proportions of

nitrogen they severally contain, has arranged grass and clover hays, and the straws of the corn plants, in their usual state of dryness, in the following order:—

	Nitrogen per cent.	or Gluten, &c. per cent.	Equal effects should be pro- duced by lbs.
Hay from mixed grasses	{ 1.15	7.1 }	100
Do., aftermath	{ 1.04	6.4 }	75
Do., from clover in flower	1.54	9.3	75
Pea Straw	1.05	9.3	75
Lentil Straw	1.95	12.3	64
Indian Corn Straw	1.01	6.4	114
Wheat Straw	0.54	3.4	240
Barley Straw	—	—	520
Oat Straw	—	—	550

Johnston in his table showing the per centage of nutritive matter in various grains, hay and straws, gives the following figures, as between Wheat Straw, and Indian Corn hay:

	Water.	Husk or woody fibre.	Starch, gum and sugr.	Gluten, albumen, and legumin. &c.	Fatty mat- ter.	Salts mat- ter.
Wheat Straw, 12 to 15	50	30	1.3	0.5	2	4
Indian Corn, 12	25	62	3.0	1.7	4	4

Professor Salisbury, found the dry matter in Corn Shucks to amount to 30.643 per cent. In his Organic Analysis of the Sheaths, (Shucks) he found they consisted of

Sugar and extractive matter	9.775
Fibre, &c.	72.662
Matter separated from fibre by a weak solution of potash	6.335
Albumen	3.804
Casein	.436
Dextrine or gum	3.128
Oil and Resin	.653
Chlorophyl and wax,	
A body resembling gluten	3.217

100.

Now it matters not, whether we take the analyses of European authorities, or that of our own eminent countryman, professor Salisbury, it must be obvious, that the theoretical views presented, demonstrate beyond all question, that Corn Shucks is not only infinitely more nutritious than Wheat Straw, but is, in fact, a most excellent provender whereon to feed stock, so far as its nutritive matter is concerned—so far as the formation of flesh, muscle, and fat, and respiration are interested.

If we turn to his Analysis of the inorganic constituents of the Corn Shucks, we find they consist of

Silicic acid,	6.414
Phosphates of iron, lime and magnesia,	3.539
Potash,	.473
Soda,	1.333
Lime,	.061
Magnesia,	.010

And thus find in their inorganic constituent elements all that is essential in the formation of bones, and are thereby assured, (if we only give our cattle enough of this excellent provender, previously having taken care to prevent its deterioration from the weather) that there can be no doubt but that they will thrive, look sleek and do credit to their keeping.

Hon. A. Evans, of the H. of R. will please accept our thanks for a copy of the Agricultural portion of the Patent Office Report for 1851.

ON THE USE OF LIME.

WYE MILLS, Talbot Co., March 12, 1852.

To the Editor of the American Farmer—

MR. EDITOR:—Let me call your attention, and that of those agriculturists, in the habit of using lime, to the enclosed extract, from an address delivered by James Gowen, Esq. I shall be gratified if you can afford space in your journal, to publish that portion of his remarks especially directed to this subject. They are thought of sufficient importance to claim a place in the "Agricultural Department" of one of the most popular "family newspapers" published. I may remark, *en passant*, that this recent and commendable practice of newspapers, allotting certain portions of their columns to agricultural subjects, is another evidence of the increasing importance which this honorable pursuit is demanding of the public attention.

I do not wish to be considered as endorsing Mr. Gowen's views to their utmost limit, or of participating in his fears as to the effects from an overdose of lime; but to consider its application in the most beneficial and economical mode, is a matter of sufficient importance to demand the serious consideration of most farmers. Others may be found, who will agree with him in all his views on this subject. My object is merely to prevent what I consider as frequently a wasteful and extravagant use of a valuable agent. If the views of so sagacious a gentleman as Mr. Gowen are correct, there is an absolute injury done to land by the frequent application of 50 to 100 bushels per acre. A more correct appreciation of the circumstances demanding its use, would aid in directing the quantity and method of its application—High scientific authority, Kane, in speaking of it, (El. Chemistry) says: "in adding lime, or marl, bone-dust or cinders, to a soil, we either render its physical condition of porosity and tenacity more suitable to the circumstances of the plant, or we supply some ingredient which was primitively deficient in the soil, or had been removed from it by a previous crop of the same kind." Again, he says, "the use of lime as a manure, arises from its decomposing the insoluble organic matters of the soil, woody fibres, ulmine, &c., and producing other matters, more readily taken up by the radicles of the growing plants. It is hence on such soils as possess a large quantity of organic matter, but are still barren from its not being in the suitable condition, that the beneficial effects of lime are peculiarly marked." In this simple but scientific explanation of its modus operandi, we have no authority for endeavoring to reduce this "organic matter" in a sudden and violent manner, by large applications of lime, to a "suitable condition" to furnish food for plants—The object to be attained, would seem to indicate a more moderate and gradual mode of proceeding, by frequently repeating the application of the remedy. We might liken the condition of a soil requiring the use of lime, to that of a patient labouring under a chronic disease, who would be more benefited by gradually altering the condition of the system, than by attempting to cut short the disease suddenly by powerful remedies. Familiar illustrations also instruct us in its use. The whitewasher does not at a single dash, give his lime all the water required to slack it, but adds it gradually, until it is brought to the condition suitable for his purpose. So with the painter, in mixing his colours, with the plasterer, in mixing his mortar,

and with the chemist, in forming his compounds—these operations are all directed by the eye, yet the farmer, frequently without a knowledge of the composition of either his soil or lime, frequently applies from 50 to 100 bushels per acre, because his neighbor B. has done so, and improved his crops, and land—whereas, by commencing with from 20 to 30 bushels, similar results might have been obtained, the loss of a considerable outlay preserved, and the excess of lime not left to be washed through a porous soil, or buried too deep to be reached by future cultivation.

I do not wish to undervalue this powerful agent in meliorating the soil, but merely to throw out some hints against what may be frequently a wasteful expenditure of money, when similar results might be obtained by a more economical outlay. I consider it always extravagant, in the absence of a knowledge of the components of a soil, to apply more than 20 or 30 bushels, and even when chemical analysis has demonstrated its want, I consider it more rational to apply it gradually, than to throw it on in large quantities. The remarks of Mr. Puvion, which you recently quoted, that "a quantity of lime which does not exceed the thousandth part of the tilled surface layer of the soil, a like proportion of drawn ashes, or a two-hundredth part, or even less of marl, are sufficient to modify the nature, change the products, and increase by one-half, the crops of a soil destitute of the calcareous principle," together with what he indicates to be the successful practice of the farmers of "La Sarthe," I esteem to be confirmatory of my views.

Strange as it may appear for one entertaining the views I have expressed, I must confess to having hitherto pursued a practice which I had seen succeed with others. The same success might however have been obtained by following the safer and more economical method indicated. The views of Mr. Puvion, strengthened by the success of the French farmers, together with the authority of Mr. Gowen, have determined me to adopt a more cautious and economical application in future, and instead of applying fifty bushels as formerly, to use but twenty, repeating it with each rotation.

Respectfully yours,

D. E. C.

"To speak of lime, as I feel bound to do, in connection with manure, requires no small degree of courage, knowing the great value you place upon it. Broadly, then, I hold it not to be a manure, in the common acceptance of the term; and that its so frequent application upon a large portion of your land, the heavy loam and clay lands, is not only destructive of the real manure applied to those soils, but to the inherent organic fertility found in them. Quick lime, spread on or with manure, evolves or liberates the most active fertilizing elements of fertilizing ingredients in the manure, facilitating their escape into the air. Not only so, but so long as its causticity continues, which from the large portions of magnesia generally found in lime—the burning process, if I may be allowed the expression—is likely to be kept up for a long time, during which the vegetable ingredients in the soil are being too rapidly and unnecessarily wasted, to the great detriment of the soil, and to the injury of almost every subsequent crop raised upon it. In no case can such lime be safely applied in quantity, as is customary, except where the soil is over-

charged with vegetable mould, or abounds in fibrous roots. If dressing after dressing of fifty or more bushels of caustic lime to the acre be applied every four or five years, nothing can save the soil from the accumulated injuries heaped upon it, but the application of a great deal more barn-yard manure than, under the condition of no lime, would be needed, to counteract or repair the mischief doing, or already done, by the lime. Here then is a needless expenditure of lime and manure, which, if time would permit to go into a calculation for a few years, would show an astounding amount in dollars. As well might you be found heaping wood on a fire to keep up a comfortable temperature in a house on a cold day, while you kept the street door open to let in the cold, when half the fuel would serve to keep the house warm if the door were shut, as to apply lime to heavy limestone land, in quantity as it is usually applied, thereby rendering it so necessary to apply so much more manure to modify it.

By way of illustrating the opposite tendencies of lime and manures, suppose a heap of rich manure removed from where it had stood some time in a field, the spot on which it stood being surcharged with the liquid which it had absorbed from the heap. If seeded in this condition the grain would not head or fill—at best it would be rusted or choked with weeds. In such a case, what would be the readiest method that a farmer could adopt to restore this over-rich spot to usefulness? Why nothing more nor less than to administer to the soil a strong dose of quick lime, by trenching and mixing it well in, throughout the spot affected. This would put its plethora to a purgation, and soon render it lean enough for actual service. On the other hand, a scabby spot, left on a field by a heap of lime, can be restored by pouring a quantity of liquid manure upon it, or by trenching in well rotted barn yard manure in excess. By this it would seem that lime, in some degree, is as antagonistic to manure as the sun is to moisture. But it may be claimed that lime is made use of as an agent to prepare food for plants: be it so then, and allow that in some cases its services are useful; would that justify its indiscriminate application as a feeder, as well where there is nothing for him to do in his line, as where there was something he could do lawfully?

In the general, lime is so wasteful and ravenous a cook, that he sometimes consumes more than he furnishes to the family of plants it is intended he should provide for; nay, it may be suspected, that when his allotted means fails to appease his gnawing appetite, he will feed on the plants themselves, though they may have a little of his own blood in them. Do not, I pray you, take this as a wholesale condemnation of lime. As an agent, it is useful in meliorating certain conditions of soil, if judiciously applied. Light sandy, micaceous or isinglass, red shale and slaty soils, may in general be benefitted by dressings of lime; but on clayey limestone soil I should deem its application unnecessary, if not injurious. To mix in a good dressing of common sand, would be more rational by far than throwing lime into it. The sand would be harmless at least; the lime, in my judgment, could not be so. If the value of the lime, so inappropriately applied, were expended in wood ashes and pulverized charcoal, it would show results incomparably remunerative. In thus pronouncing so unequivocally upon the merits of lime, I am aware of the

risk incurred; but if it should serve no other purpose than to lead to a closer examination of its effects by others, I shall feel fully compensated, and content me, in aiding an unprejudiced verdict on the opinion so frankly avowed.

ORCHARD GRASS.

TIME OF CUTTING ORCHARD GRASS FOR SEED.

A correspondent asks,—"what is the proper time for cutting orchard grass for seed?" To this question we reply, that as the seed of this grass shatters out greatly if left uncut until dead ripe, that it should be cut when the leaves turn yellow and become comparatively dry. If cut then there will be found sufficient sap in the stem to ripen the seed, and that the loss from shattering may be thus prevented, without endangering the vegetative powers of the seed.

TIME OF CUTTING ORCHARD GRASS FOR HAY.

For hay, orchard grass should be cut when in bloom.

VALUE OF ORCHARD GRASS.

Lorin, who, in his day, ranked among the most intelligent and successful farmers of our country, in speaking of grasses, says:

"Orchard grass is very valuable. It springs very early. When cut off by the scythe, it neither waits for fresh shoots from its roots, nor until its wounds be healed, but continues growing on just as if nothing had happened. The leaves which have been cut, will grow, on a rich soil, nearly, if not quite, one inch in twenty-four hours, formir new plants gradually as they increase in length.

It is very observable when it has been sown with red clover, and both being cut off by the scythe at the same time, that it greatly outstrips the clover when cool weather commences in the fall, and soon becomes much taller than it. The stalk of orchard grass is very solid, grows high, and the leaves are abundant; therefore the first crop of it will greatly exceed that of timothy. As horses and cattle eat the hay freely, and thrive well on it, I am compelled to believe it must be a much more profitable grass for this purpose. As it blossoms with red clover, and should be cut at the same time for hay, and will (except in high latitudes) produce a good first, second and third crop for mowing, if the soil be good, it must be greatly preferable to timothy, either for soiling, grazing, or hay, unless it should hereafter be found that it is greatly inferior to that grass in nutritive properties. No information or observation, however, has occurred since my acquaintance with both these grasses, which would justify this opinion. On the contrary, it would appear, that orchard grass is as nutritive as any of the grasses generally used by us, and that it may be more profitably employed, either for hay, pasture or grazing, than any of them."

We would always sow orchard grass seed with clover seed. In the first place, from its rapid growth, it would afford shade to protect the clover plants from destruction by the sun after harvest, the first season: *secondly*, clover and orchard grass mixed, make a heavier crop than clover does alone: *thirdly*, the pasture formed by the mixture of the two grasses together is better, and safer, affording more pasturage, and not being liable to hoven the cattle, as clover is when grown alone: and *fourthly*, because orchard grass will resist drought, and look green, that would kill either timothy or clover, if sown alone.—Ed. Am. Far.

IMPROVEMENT OF CLAY GRAVELLY SOIL—SEEDING TO WHEAT AND CLOVER.

FREDERICK Co., MD., 1852.

Mr. Editor:—I have a field of twenty-five acres, upon which I wish to try an experiment; it is a kind of clay gravelly soil, which I want to put in wheat this fall. Now I would be very thankful to you for advice upon the subject, as to how to manure it.—Lime is plenty and cheap; plaster is at a fair price. Answer my pestering question if you please, and you will oblige your friend,

W. R. YOUNG.

Replies by the Editor of the American Farmer.

We comply with the request of our correspondent with cheerfulness, and beg leave to assure him that we do not look upon questions of the nature of his as being in the least "pestering;" but on the contrary, take pleasure in answering all such to the extent of our poor ability. But in the outset, it is due alike to our esteemed correspondent, and to ourself, to premise, that he has not given us light enough as to the true nature and constitution of his soil, to enable us to speak with certainty, or to shape our advice as advisedly as we could desire. He has not told us what is the present condition of the soil of his field—whether it be in good heart, or has been reduced by long continued cropping, unaided by clover, plaster or manure. Therefore, we shall have to speak suppositiously, and thus endeavor to prescribe, so as to meet the defects of its present state, and *cure* them, if we may so speak. We have seen a field of reddish gravelly clay, of 12 acres in extent, by high manuring, produce largely—upwards of 30 bushels—we think it was thirty-eight bushels and a peck, but cannot lay our hands upon our memoranda now, and therefore cannot speak with certainty as to the precise quantity. The lot had been many years in grass, had been used as a pasture for cattle and sheep by a victualler for several years, but from close grazing the grass had nearly run out, and as he desired to reset it, he applied about 35 loads of slaughter-house manure, per acre, seeded it in wheat in the fall of 1845, sowed clover seed and timothy on wheat, in the spring of 1846. The yield of wheat was as stated above, the lot was well set in clover and timothy, and continued for several years to afford luxuriant pasture. These pleasing results were produced by high manuring. The theory was universal a few years back, that it would not do to apply putrescent manure *directly* to the wheat crop, but that a hoed or ploughed crop must intervene. In this theory we never had any faith, and endeavored to repudiate it as far back as the year 1836, and have so labored ever since; for we never could get our reason and common sense to swallow the conceit, that a grain so rich in nitrogen, as is wheat, could be injured by an application to the soil on which it was grown, either directly, or indirectly, of even a generous dose of nutritive manures. Now let us return to the subject matter in question, viz:—how our friend Young shall improve his gravelly soil, so as to grow a crop of wheat, &c.

1. If the land has been exhausted by long culture, unaided by manure, and is not now in culture, as lime is cheap with him, we would advise him to plough it up as deeply as a heavy plough drawn by four horses can penetrate it, to harrow and roll it, then apply 25 bushels of lime per acre, which

should be slaked with salt brine; to harrow the lime in, and let the field lie in fallow until August next, then to cross plough it, harrow and roll the ground; then apply from 10 to 20 loads of stable and barn yard manure per acre; plough that in, and harrow the land. This ploughing will bury the manure, and restore the lime to near the surface, where it is best that it should be. This done, let him seed two bushels of wheat per acre, harrow and cross-harrow that in, and sow thereon, broadcast, 1 bushel of plaster, and 1 bushel of salt per acre, and roll the land. Next spring, he should sow 12 lbs. of clover seed per acre, as soon as the ground becomes sound, and will bear the horses without poaching, and roll the field, so as to compress the clover seed into the soil.

2. If he has not the supply of manure spoken of above, but will have to rely upon bought manures, let him plough and lime his field as recommended, and procure 200 lbs. of guano for each acre, mix with that quantity of the guano, 1 bushel of salt, and 1 bushel of plaster, sow the mixture broadcast, plough it in six inches deep, then seed his wheat, harrow and cross-harrow that in, and roll; and as before recommended, seed to clover next spring, sow a bushel of plaster per acre, and roll.

3. He may also secure a fair crop of wheat, by ploughing and liming as we advise, and sowing thereon a bushel of peas per acre. When the peas come into bloom, let him plough them in, and if time be allowed him, sow a bushel of buckwheat per acre; when that comes into bloom, plough the buckwheat in, harrow, and roll; and in a few days thereafter, seed to wheat, harrow and cross-harrow that in, and roll, and the succeeding spring seed to clover as before recommended.

4. Or he may succeed in growing a good crop of wheat, and clover afterwards in this way: Let him plough and lime his land as before advised in No. 1; let it lie in that state until time for seeding his wheat; in the meantime, procure for *each acre* of his land, 400 pounds of Chandler's graves, (which can be had here for 85 cents the hundred pounds) shave it down, and mix with that quantity 5 bushels of ashes, 1 of plaster, and 10 bushels of woods-mould, or rich headland mould, mix it intimately together, put it in heap, and let it remain about two weeks in bulk, before using it, then plough it in 4 inches deep, harrow and roll the land, then sow 2 bushels of wheat per acre, harrow and cross-harrow the wheat in, and the succeeding spring seed to clover as before advised. Or

5. He may manure with 10 bushels of bone dust, dissolved in sulphuric acid, with it mix 10 bushels of ashes, per acre, spread this mixture on the land at the time of seeding his wheat, harrow and cross-harrow his seed wheat in with the mixture of bone-dust and ashes, and finish by rolling. The succeeding spring, seed the wheat to clover, as before advised, and broadcast thereon a bushel of plaster per acre.

If our correspondent's field is *poor*, which we have reason to believe it is, we think he cannot reasonably expect to grow a crop of wheat on it, and get it well set in clover, with lime, and plaster alone. These excellent mineral manures must be aided by *nutritive* manures, to dispense the *nitrogen* required by the wheat. If his land were filled with vegetable matter, whether in a soluble, or insoluble state, by the decomposition which would be brought about by the persuasive

influence of the lime, all the necessary food required by the wheat plant would be furnished to it, and as a necessary result, he might reasonably calculate upon a fair crop of wheat, and that clover would succeed; but if by a long course of culture, the mould and vegetable matter of the soil has become exhausted, his chance for a crop from lime and plaster alone, would, we apprehend, be a slim one. It is, however, but fair to observe here, that if his soil was originally good, the presumption is, that it still contains a very sensible portion of inert vegetable and animal remains, as clay soils by their peculiar adhesive powers—by their physical capacity—to say nothing of their chemical affinities—retain such matters for almost indefinite periods. If such be the condition of his soil, the application of lime, would, like leaven in a batch of bread, very soon convert these matters into vegetable food, and nourish the wheat plants into a condition calculated to assure a good crop. But as we know nothing of the past history of our correspondent's land, we cannot be presumed to speak advisedly in the premises. No matter however dormant may have been the condition of the remains we have been speaking of, the moment the lime comes in contact with them, decomposition will be superinduced; for such is among the most potent of the offices and powers exerted by lime, when applied to the soil—its capacity of converting inert matter into the food of plants, is as wonderful as it is salutary. But unless these matters be present in the soil, its powers for such purposes, will be inoperative, for want of the material to act upon; for though it can convert raw materials into food, it cannot create them.

PLANK ROADS—COUNTRY ROADS.—We copy the following brief article from the "Farmer's Monthly Visitor," published at Manchester, New Hampshire.

"To draw a ton upon an ordinary country road requires a 'pull' of 147 pounds; upon a Macadamized road, 65 pounds; upon the Russ pavement, 33 pounds; upon plank roads, only 23 pounds."

Such facts speak volumes in favor of the utility of plank roads, and should stir up a spirit of enterprise in neighborhoods where bad country roads exist,—and where do they not?—to substitute them by those constructed of plank; for in so doing they would promote every object that centres in comfort and economy.

PLAN FOR IMPROVING COUNTRY ROADS.—While we are recording the above paragraph, in favor of plank roads, we will mention a plan which we saw suggested a few days ago, for improving country roads, which we highly approve of. It was simply, to make under or covered drains, throughout the body of such roads. Two parallel covered drains throughout their entire length, would serve as conduits to receive and carry off the water, and preserve them, even in periods of rains, in good travelling condition.

The Saturday Post.—Our fair readers will see by the advertisement of this paper, on another page, that ample provision is being made by the editors, for sustaining the high reputation of the Post as a literary paper. Every family would be benefitted by having the Post as a weekly visitor. In our little circle, the oldest to the youngest eagerly look for the arrival of the Post.

LUCERN.

On the 10th of May last, we saw lucern grown on a lawn ranging from 12 to 24 inches in height. The seed was originally sown some six or seven years ago, in conjunction with lawn grass seed, and notwithstanding it has been thus disadvantageously cultivated, it still holds its own tolerably well, though, as it was reasonable to expect, its uncongenial neighbor has gained pretty much the mastery.

Lucern should be sown broadcast with oats, on land naturally rich or well manured. The crop of oats, the first season, would pay for the expense of preparing the ground; so that the Lucern, in subsequent years, except for the rent of the land, annual harrowing, and biennial top-dressings, would be a very slight tax indeed. In the first place, the soil should be a deep loam, should have lime in it, be deeply ploughed and subsoiled, and then after the lapse of a few weeks be cross ploughed and harrowed, so as to be brought to great fineness of tilth. With these conditions, and the cultivation indicated above, it would last from seven to ten years, afford good crops for soiling, or for hay, during that period, and at the end of it leave the soil highly improved.

COMPOST FOR TOP-DRESSING LUCERN.

5 double horse cart-loads of woods'-mould, or marsh mud, ten bushels of ashes, 4 bushels of bone-dust, 1 bushel of plaster, and 1 bushel salt, formed into compost, layer and layer about, and subsequently shoveled over every two weeks until used, would make an excellent dressing for an acre in lucern. This compost should be broadcasted equally over the land, every second year: then the ground should be harrowed and rolled. The harrowing would destroy grass and weeds, but benefit the lucern, as from the length of its taproot its vitality would not be injuriously interfered with, while stirring the ground would promote its growth.

COMPOST FOR MANURING AT TIME OF SOWING.

We have reverted to the culture of Lucern at this time, not because we consider it an appropriate season to commence its seeding, but to allow time for farmers and planters to make the necessary arrangements for its culture another year—such as the collection of materials for making composts, as the rough material, and it is unimportant whether that be marsh-mud, river-mud, woods'-mould, the mould from head-lands, peat, or any other kindred substances, abounding in vegetable matters and other organic remains. In forming these composts, with every 20 loads of the substances enumerated, 10 loads of stable or barn-yard manure, (or 300 lbs. of guano,) 5 bushels of unslaked ashes, 1 bushel of plaster and 2 bushels of salt, should be incorporated, layer and layer about, the upper layer to be of the rough materials, to be well compressed by being patted down around the top and sides with the back of shovels. After the compost heap may be thus formed, it should be examined every two or three weeks, by thrusting a pointed stick into it; the which, on being withdrawn and felt, if hot, should be received as proof that the decomposition was not going on healthfully; and, therefore, that the heap should be shoveled over, so as to let in air and depress heat. Twenty loads of such compost would be a fair dressing for an acre. If, however, lime were not naturally present in the soil, it should be artificially supplied, at the rate of 25 bushels to the acre,

which should be broadcasted, as a top-dressing, over the field at the time of seeding the land to oats and Lucern. The oats should be sown first, the ground harrowed and cross-harrowed, then the Lucern seed should be sown broadcast, at the rate of 20 lbs. per acre, harrowed in lightly with a light one horse harrow, and the ground then rolled, so as to bring the soil in direct contact with the seed, and thus promote its prompt germination.

TIME OF SEEDING.

As to the proper time for seeding, no day can be fixed upon—location must determine that point.—Whenever the season in spring may be settled, and the earth warm enough to be seeded to oats, is the proper time to sow oats and Lucern.

If any one should object to the trouble of cultivating lucern, all we have to say, is, that before the demurrer is filed, he should reflect, that, in preparing the ground for a crop of lucern, he is making provision for a valuable soiling or hay crop, which, with care, will last for 10 years, and, therefore, that to complain of a little extra labor, or expense, is to complain without reason or just cause.

PRODUCT—DEPTH OF PLOUGHING AND SUBSOILING.

If the ground on which lucern may be cultivated, be manured as we have pointed out, be ploughed 8 inches deep, subsoiled 8 inches more, harrowed and rolled, as directed, and its subsequent treatment be as we have advised, it may be cut three times in a season, and 3 tons of good hay be reasonably looked for from each acre of land.

ANALYSIS OF THE ASHES OF LUCERN.

Sprengel found in the ashes of Lucern, the following proportionate quantities of inorganic substances:—

Potash,	13.40
Soda,	6.15
Lime,	48.31
Magnesia,	3.48
Phosphoric acid,	13.07
Sulphuric acid,	4.04
Chlorine,	3.18
Silica,	3.30
Iron, Alumina, &c.	0.60

Looking at the above table of the inorganic elements which enter into the Lucern plant, it is obvious to our mind, that, so far as its inorganic wants are concerned, they can all be supplied by ashes, which will furnish potash, soda, lime, chlorine, plaster, magnesia, phosphoric acid, oxide of iron, manganese, &c., if enough ashes were supplied; but as they are usually scarce, except in the neighborhoods of large and populous towns, we must, besides ashes, look to other substances for the needed supplies of inorganic constituents; and we shall here name them in such quantities as we think sufficient for an acre,—

25 bushels of Lime,	
5 " of Ashes,	
2 " of Bones,	
1 " of Plaster,	
2 " of Salt.	

NUTRITIVE MANURES.

We have in the preceding part of this article spoken of the kinds and quantities of nutritive manures that should be applied to an acre of land to be cultivated in Lucern, so that there is no necessity to recapitulate them; but we will state that those who live in the vicinity of large cities, where

the articles which we shall enumerate can be obtained in quantities, may form a most valuable compost for an acre of Lucern by mixing together,

300 lbs. of Chandler's graves, shaved down fine,	
10 bushels of unleached ashes, or 20 bushels of leached,	
2 bushels of salt,	
1 " of plaster, and	
2 " of bone dust.	

The above would furnish all the organic and inorganic manures needed for an acre to be put in Lucern. After being mixed intimately together, and left in bulk a week or 10 days, it will be fit to be used. This compost should be spread evenly over the land after it has been ploughed, subsoiled, and harrowed, as previously advised, ploughed in, the ground harrowed, and rolled; when the oats, and lucern seed, must be sown, and treated as we have before pointed out.

AS TO THE TIME OF SEEDING WHEAT TO GRASS.

RINGWOOD, N. C., May 25, 1852.

To the Editor of the American Farmer.

DEAR SIR:—Please find enclosed \$1, for which send Mr. W. H. your valuable "American Farmer," to his address, Ringwood, N. C.

Will you allow me to ask you regarding the propriety of putting down land which you sow in wheat, this fall in grasses also, and what kinds would suit us best here in N. C. and what quantity per acre, and oblige yours, very truly, JOSHUA S. SWIFT.

What can the grass seed be had for in your market?

Reply by the Editor of the American Farmer.

Without knowing the physical constitution of the soil, it is impossible to say what grass would suit the soil of our correspondent best. But as the grass is to be grown upon lands on which wheat is cultivated we may infer that its condition is such as to favor the growth of the grasses and clover; presuming, therefore, that the soil in question is in good heart, calculated to bear a good crop of wheat, and that it has lime in it, we will say, that if he wishes to seed his wheat field to grass for the triple purpose, of improvement of his land, hay and pasture, he cannot do better than to sow on it next spring when the ground is sufficiently firm to bear a team without injury, 1 peck of timothy, 1 bushel of orchard grass, $\frac{1}{2}$ bushel of Red top, and 12 lbs. of clover seed, per acre. The orchard grass, red top and timothy should be thoroughly mixed together and sown, then the clover should be sown by itself; both should be sown with care, so as to make an equal distribution of the seeds, lightly harrowed in with a light one horse harrow, and then the field should be rolled with a heavy roller.

We are opposed to sowing clover seeds or grass seeds at the time of putting in wheat in autumn. If the plants escape injury from the effects of the winter, they will interfere with the grain the ensuing spring and winter and decrease the product. If that was our object, we would sow the grass seed from the middle of August till the middle of September.

In Vol. 6, April and May numbers, of our Journal, the culture of grasses will be found discussed in extenso.

The price of Timothy seed per bushel, is \$4; Rye grass, \$3 $\frac{1}{2}$; Orchard and grass do. \$2; red top do. \$1; Cloverseed, red, \$5 a \$5 $\frac{1}{2}$; do sapling, \$6 $\frac{1}{2}$; Ky. blue grass, cleaned, \$2 $\frac{1}{2}$; mixed lawn grass, Am. and Eng. \$3 $\frac{1}{2}$ a \$6; Millet, \$1 3-4; Vetches or Tares, \$3 $\frac{1}{2}$; Lucern, 28 cts. per lb.

GATESVILLE, GATES Co., N. C., }
 June 7, 1852. }

To the Editor of the American Farmer—

DEAR SIR:—I am trying an experiment, and want you to give me some information. I have about two acres sowed in oats, which I intend to turn in with the plough when they get about half ripe, and then sow down in black peas, and turn the pea vines and all in together in the Fall, with about 40 or 50 bushels of oyster shell lime. What I want to know is, will plaster benefit the peas, and will it be any improvement to the land—when, and how much to the acre. Sir, the land is very poor, and in its present state it will not produce, without manure, more than 5 bushels of corn to the acre, and wants something to make it produce. I should have described the soil as near as I could—it is a fine sandy soil—if it has any such a thing as a soil, for it is very poor, with a moist sand sub-soil—after a rain you may see moist places about on the sand—Ditches will not stand, else I should have tried to have drained it better—It is the worst piece of land I have.

I have been using lime for the last 4 or 5 years, with decided advantage in my barn lot and compost heaps, and this fall I want to try wheat or oats, and seed with clover next spring, by liming well this fall. Sir, if you deem my petition worthy of your notice, please give me what information you may think my case needs.

Very respectfully yours,

CORDAY T. SAVAGE.

P. S.—I forgot to say I have bought a barrel of copperas, which I intend to use in my compost heaps, and I wish some information about that—Will it be profitable to sprinkle over the manure in my horse stable, and also sprinkle it over my hog pen while my hogs are fattening, (for you will perceive we raise pork.) Where will be my saving?—Give me advice, for any will be thankfully received. Yours, &c., C. T. S.

Reply by the Editor of the American Farmer.

Our advice to our esteemed correspondent is this: When his oats first come into bloom to plow them in, as after the seed begins to form, the demand upon the soil is very heavy, if there be any nutriment in it, and that, after the leaves begin to dry, all that enters into the formation of the seed, will be derived therefrom, inasmuch, as all power to feed upon the atmosphere will have ceased from that period. His Peas will be benefited by a dressing of Plaster, because, in the first place, it will furnish two constituents that the plants delight in, viz: lime, and sulphuric acid, and secondly, because, from the affinity of sulphuric acid for nitrogenous matters, it will prevent loss of this essential element of every productive soil; and because his, from its impoverished condition, cannot afford to lose any of it. His Peas, like his oats, should, for the same reason, be ploughed in when they first come into bloom. Instead of 40 or 50 bushels of Lime to the acre, we would advise him to apply only half the quantity this fall, deeming either 20 or 25 bushels, per acre, an ample dose in the present condition of his land.

MODE OF APPLYING THE LIME.

For his two acres of land, we would form a compost of 40 loads of clay and 50 bushels of lime, layer and layer about, form it into pie, as soon as convenient, and let it lie in bulk until next fall.

We would slake the oyster shell lime with a strong brine made of salt. When the time arrived for applying the lime and clay compost, we would shovel over the heap, so as to thoroughly mix the clay and lime together. Indeed, if time permitted, his compost would be all the better of being shoveled over every three or four weeks.

In preparing the ground for the wheat, we would advise him to plough in his peas at least 8 inches deep, then roll the ground, and afterwards harrow it. This done, let him apply his lime and clay compost, by spreading it evenly over the ground. Then he should sow his wheat, harrow and cross-harrow, and finish by sowing 2 bushels of plaster on his two acres, and rolling his land.

At the time he sows his Peas, (after the oats,) by applying 2 bushels of Plaster to his two acres, he will economise much enriching gases, which would otherwise be lost.

If the compost we have recommended should not be adopted, as the medium of applying lime to his land; then, after he has sown his wheat, let him sow 50 bushels of lime on the two acres, and lightly harrow and cross-harrow it in, then sow 1 bushel per acre of plaster, and roll his land. The clay and lime compost, is, however, the preferable way to apply lime to such soil as his.

If he has woods-mould and leaves, or pine shatters, an excellent compost might be formed, layer and layer about, of the following ingredients:

40 loads of clay,
 50 bushels of lime,
 40 loads of woods'-mould, or pine shatters,
 10 bushels of ashes,
 2 bushels of salt, and
 2 bushels of plaster,—

to be treated as recommended for the lime and clay compost. Such a compost as this, would bring his land up at once to a productive state, and carry it through a rotation, provided he sowed his wheat to clover next spring.

He may relieve his land of its superabundant water, by blind-ditches, or under-drains; let him dig his trenches three feet deep and lay pine poles on either side of the bottom, then one on the top of the two bottom ones, and carefully fill in with the twigs of pine, or cedar, within one foot of the surface; then throw in the earth and provide an outlet for the water to escape, and he will be no longer troubled with moist places. As his lot consists of but 2 acres, he should make his improvement thorough, as the whole expense involved by our plan, will be but comparatively trifling.

Copperas, by its sulphuric acid, acts as a most powerful disinfectant, as also an absorbent of all ammoniacal substances. The best plan to use it in his stables and hog pens, would be to dissolve it in the proportion of a pound to a gallon of water, and daily sprinkle it over such premises. It will be found also eminently useful, if used in the same way in his compost heaps, as it will, like plaster, prevent the loss of the ammonia, the most precious element of all manures. A solution of salt and water, would, through the muriatic acid of the salt, perform a similar office, besides furnishing soda, a very important element in the food of most plants.

We should be highly gratified, if our correspondent would make an effort and try either the first or second compost, and report to us next year the result of the experiment, whether successful or otherwise.

THE CROPS.—The Wheat harvest commenced in Virginia some two weeks ago—The Richmond Enquirer of the 16th ult. says—

"The Wheat harvest in this neighborhood and on lower James River is now progressing finely. We regret to hear that on several fine plantations on the North side of James River the wheat crop has been terribly cut up by the army-worm, in some cases one-fifth. On several large estates on the South-side of the river, between 50 and 70 miles below Richmond, however, the harvest is abundant, the grain full and the straw scarcely injured at all by the rust, the worm or other causes. It is a beautiful and refreshing sight, that of the golden and purple-colored grain falling in even and rich rows before the ingenious and fatal knife-mechanism of Hussey's Reaping Machine. Some of the farmers expect as full a crop as last year, and the grain is excellent. The corn crops are generally promising, much improved by recent rains."

The army-worm has been very destructive to the wheat and also to the young corn, in many quarters, and we have heard of whole meadows being nearly destroyed by it. On the Eastern Shore counties of Maryland, particularly in Talbot and Dorset, the ravages of this worm, the fly and other insects, have been very great—in some places the corn has been ploughed up and potatoes planted in its place. In the Valley of Virginia, the crops are fair; the severity of the winter, however, has had an effect in some counties, where the crop will be short.

A letter from Virginia, says: "Never did I know, in this State, such a destruction of the wheat crop. I have just returned from Albemarle, one of the best counties. The joint-worm, a new enemy of three years' known existence there, has injured every crop, and destroyed many in that and other counties both sides and along the Blue Ridge. I saw many fields that would not more than yield seed, and not a few from which not one peck per acre could be calculated upon. I saw more than one field without a head. The most fortunate calculate upon a half crop only. Corn is backward on the lower James River, embracing my own farm. I have heard to-day from my manager that the caterpillar has made its appearance, and must in the late wheat do serious damage."

We learn that in the counties of Orange and Madison, the wheat crops have been so materially damaged by the joint-worm, that many farmers have turned their cattle into the wheat fields, to feed on the straw.

In Sussex Del. the army worm has also been very destructive—and the drought in some places has been of such long continuance, as to give but little hopes for the wheat crop and early potatoes—rain had not fallen for nine weeks. In other parts of Delaware the accounts are more favorable.

In Carroll, Montgomery, Alleghany and Howard counties, Md. the wheat bids fair to yield well—In Washington co. it is thought it will not be an average crop.

The Worcester (Md.) Shield says:—"The wheat and oats we have noticed in Worcester county promise more than average yield. We obtained on Saturday a specimen of the growth of wheat from the field of the Hon. Teagle Townsend, at his "Oak Hall" farm, which measures 5 feet 6 inches in length—the head well filled and heavy. At the same time also, a specimen of the growth of oats from the same farm, which measures 5 feet, four inches in length, though just about heading. Both

are far ahead of any other specimens we have seen in luxuriance and perfection of growth."

The joint worm "is very small, is found generally in the joint first below the head. The stalk is there so weakened as to lose its erect position, and bends at right angles,—while the flow of sap being intercepted, the head withers and perishes."

In Prince George's (Md.) and in some parts of Virginia, the rust has affected very materially the wheat. Almost every where, the corn planted has come up badly. In many cases it has had to be replanted, and yet promises to be a short crop.

In St. Mary's we learn the prospects for a wheat crop are gloomy.—A correspondent writes us, that there is not straw on the land sufficient to make any thing like an average product, it being thinned by the frosts and fly—corn stands badly, and the prospect for oats very unfavorable.

The accounts of the Tobacco crop are generally favorable in this state.—In Ky. however, the reverse is the case.

There has been an unusually large quantity of potatoes planted this spring.

The Oats Crop in Eastern Virginia, has suffered exceedingly from the drought, and in many places must be almost an entire failure.

AGRICULTURAL PRODUCTIONS OF VIRGINIA.

We return our thanks to the Hon. John T. Rice, Delegate in the Legislature of Virginia from Richmond and Westmoreland Counties, for a copy of Statistical Tables of the productions of the Agriculture in Virginia, compiled and arranged by Gen. Wm. H. Richardson, Secretary of the Commonwealth, under a Resolution of the House of Delegates of that State, from the late census. We shall have occasion to refer to these tables hereafter, and, for the present shall only say, that the House of Delegates of Virginia deserve the thanks of every true son of Virginia, in projecting and carrying out this most instructive work. It would be well if a copy could be placed in the hands of every inhabitant of the State; for the tables contain the most conclusive proof that could be desired, of the immense resources and agricultural capacities of Virginia. They show beyond all cavil, that she is as bountiful in the productive powers of her soil, as she is vast and far-reaching in her territorial limits. These tables show too, how ignorant have been the heads, and how slanderous the tongues, of those who have depreciated the advantages of the good and great old mother of States—of those, who, to gratify their fanatical prejudices, would represent her as shorn of her ancient glory, power, and renown. Nay they do more—they demonstrate with mathematical certainty, that Virginia was never in a more prosperous condition, than her march to greatness is onward, and that if the present spirit of improvement be fostered by those in authority, as it ought to be, she will soon defy competition, let it come from whatsoever quarter it may; for she has within herself every element calculated to give her the vantage ground in the sisterhood of States.

An Agricultural Exhibition is to be held in October next, near Hagerstown, Md., by the Washington Co. Agricultural Society. It is said by the Hagerstown papers that it will be on an extensive scale, a considerable sum of money having been raised for the purpose. A number of the farmers from the adjacent counties of Virginia are expected to be present to compete for the prizes.

For the American Farmer.
FOR THE LADIES.

MR. EDITOR:—Having tried the following recipes, and knowing them to be good, I have concluded to send them to you for publication, that some other subscribers to your valuable paper may derive some benefit from them.

Transparent Pudding.—Beat 8 eggs very light, add half a pound of pounded sugar, half a pound of fresh melted butter, and half a nutmeg grated, set it on a hot stove, and keep stirring until it is as thick as buttered eggs—put a puff paste in a shallow dish, pour in the ingredients, and bake it half an hour over a moderate fire—sift sugar over it, and serve it up hot.

An excellent and cheap desert dish.—Wash a pint of hominy clean, and boil it until tender, add an equal quantity of corn meal, make it into a batter with eggs, milk, and a small piece of butter—bake it like butter-cakes on a "Griddle Hoe," and eat it with "butter and molasses."

I would give you my name, but I have an aversion to having my name in public print—suffice it to say I am
"A SUBSCRIBER."

FLORAL DEPARTMENT.

Prepared by John Feast, Florist, 279 Lexington st. for the American Farmer.

At this time, especially when the weather is so hot, nothing more can be done than to keep every thing in order: this will necessarily require great care in this dry season, as the foliage of all plants, both in and out of pots, will become so defective as to seem unnatural, when compared to a season when there is plenty of moisture in the atmosphere, when plants generally look in a healthy condition, if even common care is bestowed on them—but those plants turned out of pots in the borders, require the least care; (yet watering is essential in any season,) as they grow more luxuriant than when kept in pots; but only some plants will bear transplanting in this way, as the stronger growing ones, such as *Hibiscus*, *Oleanders*, *Justicias*, *Habrothamnus*, *Salvias*, and such like, which are easily taken up in the fall, and by careful moving, are soon established for the coming season.

Bulbous roots, as *Hyacinths*, *Tulips*, &c. should now be taken up and kept dry till the month of October for planting; it is better to keep them in dry sand, rather than otherwise.

Greenhouse Bulbs, that have done flowering, dry off in the pots, and let them stand in some shady, dry place, till the proper time for planting in the autumn.

Schemenes, *Gloxinias*, and plants of this character, will require attention—keep them in a shady, moist situation, and not let them suffer for attendance; as a little trouble will amply repay for the time spent, by their bloom being so beautiful and abundant when well managed, and by flowering most of the summer.

Calceolarias will be nearly done flowering, and any that have been fertilized should be kept for seed, and when ripe, might be sown at any time, as they will become strong plants before the winter, and they generally succeed better than when sown late.

Annuals that are too thick, where sown, should be planted out, and such as are intended for flowering in pots, should be repotted as they advance in growth. Now is a good time for the propagation

of *Azaleas*, *Roses*, and many others that stock from cuttings—also the layering might be done of such as are not easily increased only in this way.

Greenhouse Creepers should have particular attention as they advance in growth; have them neatly tied up to supports or trellises, and keep them clear of insects by frequently syringing them with a weak solution of the whale oil soap; this cleans the foliage and eradicates them entirely.

Now that every thing is planted out and every thing placed for the summer season, nothing more is required than to keep things in good order, with as much neatness as possible.

Mexican Guano.

GUANO—700 tons Mexican Guano, in store and for sale by STIRLING & AHERNS, 54 Buchanan's wharf, at \$25 per ton of 2240 lbs.

We have the following certificate from Dr. David Stewart, who analyzed the Guano. "It contains the largest proportion of Phosphates I have ever met with—where they are deficient in a soil, this Guano is cheaper and much more permanent than the Peruvian. Signed,
June 1-14. DAVID STEWART."

COAD WHEAT.

THE advertiser expects to have on sale after harvest, about 300 to 400 bushels COAD WHEAT, and will contract to deliver the former amount at \$1.50 per bushel. The character of this wheat is too well known to need a description.—It is being raised by Wm. B. Matthews, of Charles Co. Md., to whom orders may be addressed at Port Tobacco, P. O., or to the Editor of the Farmer. June 1-14

WARNER'S PATENT SUCTION FORCING AND ANTI-FREEZING PUMP, has been awarded the Silver Medal by the New York, Philadelphia, and Baltimore Fairs, which is evidence sufficient that it is the best Pump in use; by attaching pipe, one man can force water throughout the largest building. For baths, washing windows, carriages, &c. it is particularly applicable. The public are invited to call and see the Pump in operation. Price \$20 and 25.
GILDERSLIEVE, HOLLINS & CO.
68 S. Gay st. near Pratt, Baltimore.

may 1-14

Important to Purchasers of LUMBER.

THE undersigned is selling SHINGLES, LATHS, PICKETS, CULLINGS, WEATHERBOARDING, &c. at the lowest cash prices, if taken from the wharf, lower end of McElderry's wharf, opposite the State Tobacco Warehouse. June 1-14
ROBERT HOOPER.

MCCORMICK'S AND HUSSEY'S REAPING MACHINES—For sale at manufacturers' prices.

To guard against disappointment, orders should be sent in at any early day. FITZHUGH COYLE,

National Agricultural and Seed Warehouse,
may 1-13 7th street, Washington.

TO FARMERS.

THE undersigned, by this method, would apprise the Agricultural community, that he is still engaged in the manufacture of the renowned *Wiley, Empire*, and other choice Plows. He also manufactures and has for sale, a number of the best and most efficient Farming Implements in use. Call before purchasing elsewhere, as his terms are such as cannot fail to please. All implements guaranteed.

AGENTS for the *Wiley, Empire*, Boston, Woodstock, and other Plow Castings. A. G. MOTT.

At the old stand, No. 38 Ensor, street, and at No. 51 N. Paca street, opposite the Hand Tavern, Balt. mh-1.

AGRICULTURAL IMPLEMENTS—LABOR SAVING MACHINERY—GEORGE PAGE & CO. Machinists and Manufacturers, Baltimore st. West of Schröder st. Baltimore, are now prepared to supply Agriculturists and all others in want of Agricultural and Labor-saving MACHINERY, with any thing in their line. They can furnish Portable Saw Mills to go by steam, horse or water power; Lumber Wheels; Horse Powers of various sizes, ranging in price from \$85 to \$190, and each simple, strong and powerful. Their *Horse Power* and *Thrashing Machine*, they are prepared to supply at the low price of \$125 complete; the Thrashing Machines without the horse power, according to size, at \$30, 40, 65 and \$75; Improved Seed and Corn Planter; Portable Tobacco Press; Portable Grist Mills complete, \$165.

MARYLAND AGRICULTURAL DEPOT,

AND Agency for the sale of all kinds of COUNTRY PRODUCE, as received direct from the producer.

SIR—We would most respectfully submit to your notice and consideration the above step in our business, as being an object of great interest and convenience; and as the undertaking is a new era in the march of modern improvement, its great importance cannot be too highly appreciated by the understanding and enlightened agriculturist. The nature of this enterprise is simply the establishment of a receptacle for your produce, where the same is sold to the best possible advantage, at a small remuneration. Located as we are in one of the most desirable positions for this business that our city affords—in the immediate neighborhood of the largest and most flourishing market of which we can boast—we cannot resist from flattering ourselves that success must attend our undertaking. All we have to ask of you are your favors and support; and on our part, we pledge all of our best endeavors to consummate a work of such great importance to the satisfaction of all parties.

We mean in part such produce as would meet with a ready sale, viz: POULTRY, EGGS, BUTTER, POTATOES, FRUITS, &c. &c. All written communications will receive immediate attention, and all orders for anything in or out of our line, will be thankfully received; and any information we can impart, as to the state of the market, &c. will be cheerfully given.

—We will have agents acting for us in all the principal markets—men of experience—and when a consignment is made, should we think the same could be disposed of to better advantage in a retail manner, we shall operate accordingly.

Thus you see our business is new from the start. Your merchandise, which would formerly pass through some half a dozen hands, and as many profits taken from the same, before the article was consumed, will now be subject to but a slight per centage.

—A communication through mail, apprising us of a consignment, would be advisable, particularly when you have a water communication with us, as then we would make it our duty to look up buyers, if possible, and remit an account of sales by return conveyance.

TERMS—For selling Poultry, Eggs, Butter, &c. 12 per cent.; Potatoes, Fruits, &c. 10 per cent.; and all other kinds of merchandise that is saleable in this market, will be disposed of on the most reasonable terms, and purchases made accordingly.

Very respectfully, yours,

F. B. DIDIER & BRO.

References throughout the State—Hon. John Nelson, Messrs. Hickley & Bro., Baltimore City; Jesse Slinguff, Esq., Wm. Orndorff, Esq., Noah Worthington, Esq., Baltimore County; Isaac Slinguff, Esq., Wm. Crumrine, Esq., Carroll Co.; D. Schley, Esq., Frederick County; Leonard Hays, Esq., & Kirk, Esq., Montgomery Co.; Chas. H. Bouldin, Esq., Harford Co.; C. R. Howard, Esq., Col. James Piper, Samuel Brown, Esq., Howard Co.; Col. Thomas Tennant, Edw. Tennant, Edw. Covey, Nicholas Orem, Robt. Banning, W. H. W. Powell, Esq., Talbot Co.; James Wallis, Esq., Dorchester Co.; Messrs. Collins & Hynson, Kent Co.; Pere Wilmer, Esq., Queen Anne's Co.

Maryland Agricultural Warehouse,

COUNTRY PRODUCE AND SEED STORE, wholesale and retail, F. B. DIDIER and T. TENANT DIDIER, Proprietors, No. 97 N. FACA, near Franklin street, have now in store a large and assorted stock of Agricultural Machinery and Implements, of the most approved kinds, and daily making new additions; Field and Garden Seeds, Fertilizers, &c.

N. B. We are agents for the sale of D. Miller's celebrated Fruit and Ornamental TREES, from the Cumberland Nurseries, Pa. Also, for the sale of Dr. X. Bulleo's Great American Remedy for Man and Beast, against the many ills which flesh is heir to—the same for sale by our agents throughout the county—(cure guaranteed, or no charge made.)

June 1

F. B. DIDIER & BRO.

JOHN FEAST, Florist and Seedsman,

279 Lexington street, Baltimore,

INFORMS the public of his superior stock of Garden Seeds, just received from England, and such as can be raised in this country are warranted of first quality; with an extensive collection of Pinus, &c.,—as Roses, Camellias, Dahlias, and new Evergreens. Grape Vines, Victoria Knapbush, Sea Kale, and Cauliflowers; Egg Plants, Tomatoes, Cabbage, &c. for planting out, will be furnished on the most reasonable terms. Experienced Gardeners recommended—communications post paid. Bouquets and Flowers to order, and punctually attended to.

ap 1-4t.

Pitts' Patent Premium Threshing Machines

And Double Pinion Horse Powers,
For sale at Kerr's wharf, foot of Bond street,

FELL'S POINT, BALTIMORE, Md.

THE subscriber offers for sale the celebrated "PITTS' SEPERATOR." It is the same machine that has stood and now stands unrivalled by any machine for Threshing and Cleaning Grain in existence. It has been exhibited at State and County Agricultural Fairs in the United States and Canada, always receiving the First Premium.

The Horse Power, for strength, ease, durability and cheapness of repair, is unequalled. The driving wheel is six feet in diameter, driving two bull pinions, each receiving equal power. The bevel wheels driven by the bull pinions, connect with two pinions on the line shafts. Thus it will be seen this Horse Power is double the strength of any single geared power. It may be driven with from two to ten horses, depending upon the power required.

The above machines were built at J. A. Pitts' shop, Rochester, N. Y. and will fully sustain all that is claimed for them. Certificates of their superiority may be seen at the place of sale, and at the office of the American Farmer. Please address

JOHN S. VEDDER, Agent,
as above, at Baltimore, Md.

TESTIMONIAL.

Prospect Fair, near Delaware City, July 16, 1851.

JOHN A. PITTS—Dear Sir:—You have requested me to give my opinion and views of, and experience with, Pitts' Threshing Machine and Double Pinion Horse Power. Having used them for some time, this is to Certify, that I have used Pitts' Machine for threshing and cleaning grain for three years, and I believe it to be one of the best Machines now in use, for expedition, ease, and durability; threshing daily from 250 to 350 bushels of wheat, without delay from the Machine getting out of order; and threshing annually for me from 2000 to 4000 bushels of wheat.

I therefore believe it one of the best machines now in existence for the farming interest.

Yours respectfully, JOHN C. CLARK.
Je 1-1t Pres't of the Agr. Soc. of Newcastle Co., Del

Grant's & Bamborough's Wheat Fans.

GREENWICH, N. Y. March 4, 1852.

Mr. Samuel Sands—

DEAR SIR:—I noticed in your January number of the American Farmer, an advertisement signed John Bamborough, which is intended to mislead the public, and do great injustice to Mr. Grant. It is as follows:—*The greatest triumph yet, at the State Agricultural Fair of New York, held at Rochester, Sep. 16 to 19, 1851—Bamborough's Grain Fan receives the highest honors, being a splendidly engraved Diploma. In Justice to Mr. Grant and the public, I will, as one of that Committee, make the following statement of facts: The first premium of five dollars was given to H. Rappleye & Co. of Rochester, on J. P. Grant's Patent Grain Fan, that will chaff and screen wheat at one operation. The diploma, or second premium, was to John Bamborough, for his Mill, that takes two operations to clean wheat, as so knowledge by himself at that time. (Then he says again): This was a glorious triumph for John Bamborough and Old Pennsylvania, over the best Grain Fan of New York. Now you will perceive that this is false, and not true, and you will, in justice to the Public, as well as Mr. Grant, give the above an insertion in your paper. The above report was a unanimous report of the Committee.*

Respectfully yours, WALDEN EDDY,

One of the Committee on Agricultural Implements at the above named Fair.

NOTE.—E. Whitman, & Co. are our authorized Agents in Baltimore, for the sale of our Premium Wheat Fans, to whom orders can be addressed, and will be promptly filled.

ap 1-4t. J. P. GRANT & CO., New York.

LIME—LIME!

THE undersigned having purchased of E. J. Cooper the most extensive Lime Burning Establishment in the State, is now prepared to supply Agricultural and Building LIME, of superior quality, to farmers and others, on accommodating terms, from his Yard, at the City Block, or delivered at the several landings on the Chesapeake Bay and its tributaries, and pledges himself by strict attention and punctuality, and a determination to do justice, to merit a liberal share of patronage. Any orders addressed to him through the Baltimore P.O. Office, or left with C. W. HUGHES & Co., No. 60 South street, one door above Pratt, will be promptly attended to.

Feb. 1-ly

JAMES L. SUTTON.

EDDY HORSE POWER, as good as new, cost \$100—will be sold for \$75—the owner having quit farming, has no use for it. Apply at this office.

June 1-1t

M'CORMICK'S WORLD'S FAIR PREMIUM REAPER,

For Sale by E. WHITMAN & CO., BALTIMORE.

Price of Reaper, \$125; additional price, with Mower, \$30.

This machine will be sold upon a written guaranty, stating explicitly what it will perform, and if it does not correspond with the guaranty upon which it is sold, it may be returned and the money refunded. It will do more work, and do it with more ease, and is considered far superior to any other Reaper in use. Farmers will do well to give it a trial.

Pamphlets containing description of machine and the trial of it in Europe, can be had on application, by mail or otherwise, to E. WHITMAN & Co., who are the regular agents for the sale of them in Baltimore. A full description of the above may be seen by referring to the last number of the "American Farmer." E. WHITMAN & CO.

June 1



E. Whitman & Co.'s Premium Iron Thrasher, the cylinder of which will last 100 years in constant use.

It is a common remark by those using this machine, that no man would use any other if he knew the great advantages of these. We have recently made an improvement in the teeth or spikes of this machine, which adds very much to its strength and durability, and can now recommend them to do more work with the same amount of power, and that they are more durable, will break less grain and thresh cleaner than any other machine made in this country.

Prices—20 inch, \$45; 24 in. \$50; do. extra heavy, \$60.

The Straw Carrier may be attached, and it is a simple fixture, which saves the labor of some two or three hands, will separate the grain from the straw more perfectly than it can be done by hand.—Additional price, with Straw Carrier, \$15, \$18 and \$20. June 1

E. WHITMAN & Co.'s PREMIUM WROUGHT IRON RAILWAY HORSE POWER,

Which has received all the premiums that have ever been awarded to Railway Powers of any description by the Md. State Agricultural Society, viz:

1849—First Premium of the Maryland Agricultural Society, to E. WHITMAN, for his Wrought Iron Railway Horse Power, \$10
1850—First Premium of the Maryland Agricultural Society, to E. WHITMAN, for his Improved Wrought Iron Railway Horse Power, \$15

Price, \$100.

1851—To E. WHITMAN & Co., by the Maryland Agricultural Society, for their Improved Wrought Iron Railway Horse Power, a Certificate of Pre-eminence, over all others.

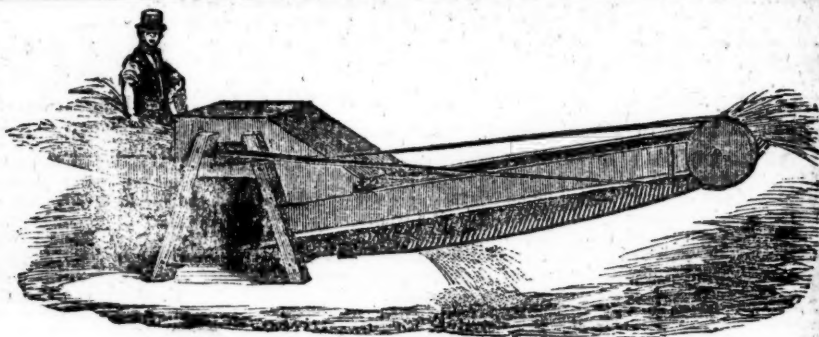
\$15

BAMBOROUGH'S FANS.

600 of the celebrated BAMBOROUGH FANS for sale.—Farmers in Md. and Va. knowing the value of a good Wheat Fan Mill, will apply direct to E. WHITMAN & CO., who are the sole owners of this patent in Maryland. June 1

GRANT'S CRADLES and FAN MILLS, for sale wholesale and retail by E. WHITMAN & CO.

SWEET HORSE POWERS of the most approved patterns, for sale by E. WHITMAN & CO.



SINCLAIR & CO'S PREMIUM THRASHING MACHINES,

Awarded the First Premium

By the Maryland State and Talbot Co. Agricultural Societies, held last Fall.

The gentlemen composing these Committees were selected as the most prominent as regards practice and science, and farmers well skilled in the working and construction of agricultural machinery. The Committees (the State Committee particularly,) after a thorough examination of the various Thrashing Machines exhibited from this city, Pennsylvania, Virginia, &c. awarded the **FIRST PREMIUM** in favor of our

IMPROVED WROUGHT IRON ELASTIC CYLINDER.

The improvement consists in great strength and elasticity, at the same time constructed in the most simple manner, all the parts being so admirably adjusted and secured, that it is rendered impossible for any of the teeth to become slack or fly out, or any part of the cylinder or concave to become deformed by ordinary pressure, or the highest speed the cylinder may be driven. We make four sizes, viz: 16 inch—20—25 and 30 inch. Price, \$35, \$40, \$50 and \$60.—Sizes generally preferred and recommended are the 20 and 25 inch. Straw Carriers attached to order at \$15 to \$20.

Also on sale, our usual assortment of **SWEEP and RAILWAY HORSE POWERS**, constructed on the same principle as those sold extensively during the last season, which, with scarcely one exception, have succeeded, and given entire satisfaction to purchasers.

The following set of **THRASHING MACHINERY** is **MOST PROMINENT** generally sold, and warranted, viz:

Sweep Horse Power, No. 2,	\$100
25 Inch Thrasher,	50
Straw Carriers,	18
Driving Belt,	10

FOR LARGE WHEAT GROWERS, or those wanting a Horse Power of GREATER CAPACITY than ordinary, we recommend our **FIRST CLASS**, or No. 3 Power, which affords sufficient power for driving the 30 inch Thrasher, Corn Mill, Page's Saw Mill, &c.

Yet on hand a few of Hussey's celebrated **REAPING and MOWING Machines**;

GRAIN CRADLES and Scythes complete, with iron and wood braces.

Horse, Hay and Gleaning **RAKES**, Loafer and common Hand Rakes,

Scythe, Snath, Forks and **HARVEST TOOLS** generally.—**CULTIVATORS** of various sorts and patterns. **PLOUGHS** for flushing and cultivation.

WHEAT AND CORN FANS.

300 CHAFFING and SEPARATING MILLS on hand, and manufacturing for the approaching season. These combine all recent improvements, both as regards powerful Chaffers, and reducing the grain to the finest quality for market or seeding. Price, with three riddles, a double and single Screen, \$25, \$30, or \$35 each. Additional Riddles and Screens (if required,) price extra.

TURNIP SEED—For Stock and Farm use.

FOR SALE, a superior lot of **RUTA BAGA** and **DALE'S HYBRID TURNIP** Seed; also, for Table use, our improved **RED TOP** and **WHITE FLAT** Turnip Seed, grown at our Seed Gardens from stock of the first quality—Early Dutch, Flat Orange, White Tankard, Norfolk, and several other varieties of the Turnip, just received and for sale.

For particulars, see our Illustrated and Descriptive Catalogue for 1882.

ROBERT SINCLAIR & CO.,
Manufacturers and Seedsmen, Bap.

Cochin China and Shanghai Fowls For Sale.

THE subscriber has for sale a few choice pairs of FOWLS, of the above variety, pure blooded, raised from stock of his own importation and warranted true to their name. Orders for the same will meet with prompt attention by addressing

C. SAMPSON, West Roxbury, Mass.
Other varieties of Fowls furnished, if desired. June 1-21



COTSWOLD SHEEP.—For sale, Buck Lambs of the Cotswold breed—price from \$30 to \$50 each. These Lambs are out of ewes purchased from Col. Ware's celebrated flock, by one of his imported bucks. Also some mixed breeds, price \$10 to \$30. Apply to S. Sands, at the office of the Farmer, or to

THOS. HUGLETT,
Tyappe, P. O. Talbot Co. Md.



NEW OXFORDSHIRE LONG WOOLLED BUCKS FOR SALE.—The subscriber having purchased the entire stock of Sheep belonging to his brother, Clayton B. Reybold, deceased, has yearling and two year old long woolled Bucks, which he will dispose of at any time called for. This flock (which has been bred from the best ever imported) is so well known they need no further description than to say they continue to yield their very heavy fleeces from 9 to 16 lbs. of washed wool, and when full fattened will weigh upwards of 300 lbs. alive. This breed of Sheep are remarkably healthy and very prolific, and make a profitable cross with the various breeds of this country, doubling the weight of wool and mutton. Gentlemen are invited to call and see for themselves, or communicate by mail. Direct Delaware City, Del.
June 1-41* WILLIAM REYBOLD.



SHEEP—The subscriber having a larger flock than is convenient to keep, offers for sale a number of very superior Ewes, 2 and 3 years old, this spring, with or without the lambs now by their side—they are 2 and 3-4 New Oxfordshire, crossed upon the Leicester, and some on the South Down breed. They are well worthy the attention of gentlemen wishing to improve their flocks, and will be sold on very reasonable terms. Address WM. JESSUP, Cockeysville, Balt. Co. Md. or apply to Mr. Sands, at the Farmer office. May 1-51



FOR SALE.—BUCK LAMBS of the Cotswold or New Oxfordshire breed, deliverable in Baltimore after 1st of Aug. For several years past great care has been given by the subscriber to the selection of his breeding Ewes, and Rams, and the Buck Lambs from his flock have won 3 out of 4 of the annual premiums for the best pair of Buck Lambs, awarded by the Maryland State Agricultural Society. Price from \$20 to \$25, according to choice. For further information enquire of S. SANDS, editor of American Farmer, Baltimore, or to the subscriber.

June 1-41

Westman's Mills P. O. Baltimore Co. Md.



BUCK LAMBS.—The subscriber offers for sale a beautiful lot of New Oxfordshire Ram Lambs, got by his fine Ram, obtained from the late Clayton Reybold, and was one of the choicest of his flock, out of very superior Ewes. They will be delivered in Sept. or Oct.—price \$15 to \$20.

Also for sale, a pure New Oxfordshire BUCK, purchased from Mr. Reybold, one of the very choicest of his flock, and now in his prime, 3 years old. Having used him for his present flock, and having just obtained a fresh Buck, I have no farther use for him. He is probably the finest Buck in the State; he weighed 237 lbs. in April. Apply at the office of the American Farmer, to Mr. S. Sands, or to

WM. JESSUP, Cockeysville P. O.
Balt. Co. Md.

June 1-41



AGENCY FOR THE PURCHASE AND SALE OF IMPROVED BREEDS OF ANIMALS.—Stock Cattle of the different breeds, Sheep, Swine, Poultry, &c. purchased to order and carefully shipped to any part of the United States—for which a reasonable commission will be charged. The following are now on the list and for sale viz:

Do	do	Alderney	do	do
Do	do	Ayrshire	do	do
Do	do	Devons	do	do
Do	do	South Down Sheep		
Do	do	Ox ordshire	do	
Do	do	Leicester	do	

Swine and Poultry of different breeds.

All letters, post paid, will be promptly attended to. Address
AARON CLEMENT,
mh 1 Cedar st, above 9th st., Philadelphia.

H. R. Marks' Premium Daguerrean Gallery,

No. 159 BALTIMORE STREET,

HAVING twice been awarded the HIGHEST PREMIUM by the Maryland Institute, for the eminent superiority of his Pictures, Mr. Marks can confidently assure all who want an accurate Likeness, combining every requisite of a finished work of art, that they can get it at his Gallery.

Mr. M. has also the satisfaction of announcing that he has recently added to his collection a complete *Daguerreotype View of the City of San Francisco*, taken by himself, and Likenesses of *Seventeen Japanese Mariners*, who were picked up in distress off the coast of Japan, and brought into San Francisco, whence they were sent home on board an American sloop-of-war. Likenesses taken in any weather. Satisfaction guaranteed in all cases. July 1



C. H. DRURY, Hollingsworth street corner of Pratt—Head of the Basin—having completed his establishment with Foundry connected, for the making of his own Castings, is prepared to furnish all varieties of **AGRICULTURAL IMPLEMENTS and CASTINGS**, made to order, of the best material.

The following is a list of FLOWS kept constantly on hand: Davis, of the different numbers, for wrought and cast shears, S. & M. Chenoweth, Wiley, 2 and 3 furrow, No. 8, His side, No. 1 and 3 Connecticut—Bench Improved or Posey Flow, with common Davis cast shear—Self-sharpener or wrought shear—Corn Cultivators, plain and expanding—Tobacco do.—Wheat Fan—Corn shellers with double hopper—Old Vertical and Virginia sheller—Harrows—superior Pennsylvania made Grain Cradles—Revolving Horse Rakes—Cylindrical straw Cutters, &c. &c. Horse Power GRIST MILLS, a very useful and saving article, and coming into general use. **HORSE POWER AND THRESHING MACHINES**, of these I need not say any thing, as wherever they have been in use any time, they are preferred to all others.

C. H. D. will this year make a smaller size Power & Thresher, (price of Power, \$100, Thresher, \$50, Band, \$10, or when taken together, complete, \$150 cash.) Persons in want of Implements made of the best material, and put together in the strongest and best manner to answer the purpose for which they are intended, are invited to call on the subscriber. Jel

JAMES BAYNES, Wool Dealer,

Warehouse No. 105 Lombard st. near Calvert, Balto.

IS prepared at all times to give a fair market price for WOOL of all descriptions. He would recommend to farmers to be more particular in washing their Wool, and in getting it in good order before bringing it to market, to ensure them a fair price. The demand is good, and the probability is, that it will continue so the coming season. Those having wool to dispose of, are invited to give him a call before disposing of their fleeces. Any information as to putting it up for market, &c. will be freely given.

References—B. Deford & Co., and Wethered Brothers, Baltimore—Jas. Mott & Co., and Houston & Robinson, Philadelphia. Ap. 1-1yr

Alderney and Improved Short Horn Cattle.

I HAVE thorough bred young Alderney BULLS, from nine to eleven months old, raised from the choicest imported stock.

Also two thorough bred young Short Horn BULLS, bred from the Bates stock, ten months old, raised on the farm of Mr. T. P. Remington, near Philadelphia, and for sale by

AARON CLEMENT,

Agent for the purchase and sale of improved stock,
mh 1-1f Cedar st. above 9th st. Phila.

Bone Dust.

THE subscriber will furnish ground Bones, warranted free from every mixture, or the entire quantity forfeited. Also a second quality article, composed in part of Bones, and in part of Flesh of Animals, being a quick and powerful fertilizer, at 35 cents per bushel or \$12 per ton. He has lately made such an improvement in his machinery for crushing bones, as to enable him to sell an article better than ever before offered, a sample of which can be seen at the office of the American Farmer. My Bone Dust weighs, from the manner in which it is manufactured, 55 to 60 lbs. per bushel, consequently there are 10 lbs. of Bone more than that only weighing 45 or 50 lbs. per bushel—I am, therefore, compelled to make my price 55 cents, or be at a serious loss by my improved machinery.

None of my manufactured Bone Dust is sold, except at my Factory. JOSHUA HORNOR.

I furnish to my customers, when bags are not sent, 2 bushel bags, at 6 1-4 cents each.

Reference—Messrs. Randolph, Colhart & Co., 158 Thames street, May 1-41*

PERUVIAN GUANO.

THE undersigned, exclusive Agents of the Peruvian Government, for the importation and sale of Guano into the United States, have the honor of notifying to the farmers and dealers of this country, that they have settled in this city a branch of their Lima house (Peru) under the special direction of their partner, Mr. Frederick Barreda, with the object of performing all the business relating to that Agency in the United States.

Following the views of the Peruvian Government, whose wishes are to establish a fixed and convenient price for this manure, offering the same facilities to farmers and dealers of obtaining it from first hands, the undersigned have decided to sell the Guano at the rate of \$46 per ton of 2,240 lbs., put into good bags for all quantities above 50 tons, with due notice to purchasers, that all duties, charges or fees, now imposed, or that may hereafter be imposed upon the introduction of Guano by the laws of the different States into which it may be imported, will be paid by them, in addition to the above named price of \$46 per ton.

Full cargoes of Guano can be purchased and delivered at any safe port of entry in the Chesapeake or Delaware Bays, or their tributaries.

The consignees only warrant as proceeding from Peru the bags of Guano marked with their true mark, and sold by them or their Agents.

For further particulars apply to

F. BARREDA & BROTHER,
No. 62 S. Gay st., Baltimore, or to
T. W. RILEY, 42 South street,
Our Agent in New York.

July 1-1yr.

Important to consumers of Peruvian Guano.

THE Government Agents for the sale of Peruvian Guano in the United States, having appointed the undersigned Sub-Agent for sales in the District of Columbia, he is now prepared to furnish No. 1 Peruvian Guano in lots of one to one thousand tons, upon terms which cannot fail to give satisfaction. A depot will be established in Georgetown in connection with his house in Washington, and farmers will thus be enabled to obtain supplies of the article in its purity, from DIRECT IMPORTATIONS to the Potomac.

His neighbors of Maryland and Virginia will find it to their convenience and interest to purchase of him—and he hopes by strict personal attention to their orders, to receive from them a generous share of patronage.

FITZTHUGH COYLE,
National Agricultural and Seed Warehouse,
Washington City.

July 1-4t

GUANO! GUANO!!

THE subscribers have now in warehouse, and will be receiving by different vessels during the season, their full supplies of Peruvian Guano, and are prepared to furnish the article in lots to suit, at the lowest market rates.

They guarantee the purity of all guano passing through their hands, and farmers ordering, may depend on every attention being given to its proper shipment.

In store, their cargo of very superior PATAGONIAN GUANO, imported in Barque Henry Kelsey. The cargoes of second quality imported in the "New Regulus" and "Christiana Murray."

Clover and Timothy Seed; Rock Salt for stock; Kettlewell's Fertilizer; Ground Bones; Ground Plaster. Fish Bone, &c.

W. WHITELOCK & CO.,
Corner Gay and High sts.

July 1-4t.

GUANO—GUANO.

500 TONS PERUVIAN GUANO, direct importation, and warranted equal in quality to any in the market. The Guano is put up in good strong bags, and is in fine shipping order. For sale in lots to suit purchasers, at the lowest market rates, by

WM. ROBINSON, No. 4 Hollingsworth st.
near Pratt st. wharf, Baltimore, Md.

Also, PATAGONIA GUANO, BONE DUST, Building and Agricultural LIME, for sale on the best terms. Je. 1-1f

Pilkington's or Luck's Improved Patent SMUT MACHINE.

THIS Machine has proved itself to be one of unrivalled excellence. It is warranted to answer every purpose of the most complete and expensive machinery of screens, rubbing stones, fans, &c., and will thoroughly clean the most smutty wheat. It is the best contrivance to take out chaff, onions, and heavy grit, that has ever been made by millers. This machine is provided with self-acting oil feeders to the journals, and requires to be oiled but once a week. It wholly does away with the small fan. It runs at the rate of one thousand revolutions per minute, requiring but little power. We have seen a large number of these machines, and they have in every case given entire satisfaction. Price \$60.

A. B. ALLEN & CO., N. Y. Agricultural Warehouse,
June 1-3t 189 and 191 Water st., New York.

IMPROVED SUPERPHOSPHATE OF LIME—For sale in quantities to suit purchasers, at the State Agricultural Warehouse—price 2½ cents per lb.

June 1-3t

LONGETT & GRIFFING,
No. 35 Cliff street, New York.

THE SATURDAY EVENING POST.

THE CURSE OF CLIFTON:

A Tale of Expiation and Redemption,

By MRS. E. D. E. N. SOUTHWORTH,

Author of "The Deserted Wife," "Shannondale,"
"The Discarded Daughter," &c.

SUCH is the title of a new Novelle about being commenced in the SATURDAY EVENING POST, of Philadelphia, by that gifted writer, Mrs. SOUTHWORTH.

Single subscriptions \$2 a year—4 copies \$5—8 copies \$10—16 copies \$20. Specimen copies sent gratis.

July 1-1t

No. 66 South Third street, Philadelphia.

New Produce, Grocery & Commission Store.

THE subscribers offer their services to the farmers of Maryland and adjacent States, for the sale of PRODUCE of all kinds. The advantages of having an agency in this city, to dispose of MARKETING, are now well understood, and they flatter themselves, from their knowledge of the business, that they will be enabled to secure better prices than are now generally obtained. They will also attend to the sale of Tobacco, Grain and Country Produce generally, charging a fair commission for their services—and will purchase Guano, Lime, Bone Dust, Plaster, Seed, &c. to order. Prompt settlements will be made, and no effort will be spared to give satisfaction.

July 1-5*

COLEMAN & RICHARDSON,
36 Light st. wharf, Baltimore.

AUSTRALIAN WHEAT—Very superior—The berry of this grain is extra large, and makes the best of flour. It produces a greater average crop than any other variety now grown in New York. Several years' experience in its cultivation, proves that it is less liable to rust or mildew than other kinds; and as the stalk is large and strong, it is also less liable to blow down or lodge. Price \$4 per bushel. Other varieties of wheat, such as the White Flint, Mediterranean, Black Sea, &c.

Also, AGRICULTURAL IMPLEMENTS of all kinds, and FISH and GARDEN SEEDS. A. B. ALLEN & CO.
June 1-3t 189 and 191 Water street, New York.

Farmer's and Planters' Boiler or Laundry Kettle.



A NEW article, designed for the use of Farmers, Planters or Manufacturers, or for any purpose where the common cauldron has heretofore been used. It consists of a stove or fire box, designed for burning long wood, brush or chips to which a cauldron is adapted that the flame is spread in a thin sheet be-

round the bottom and sides, forcing it equally over every portion of the fire surface at the same time, thus greatly economising in the use of fuel, and ensuring the utmost expedition in its operation. For sale by BARTLETT BENT, JR., 238 Water Street, N. Y. July 1, 6*

F. D. Benteen & Co. 181 Baltimore st., Balto.

HAVE FOR SALE a large assortment of MUSIC, and are constantly publishing and adding to their stock all the new and standard publications of the day.

Having rented an additional warehouse for PIANO FORTES, a very large assortment will always be kept for sale, from the best factories in the country, of 6, 6 1-3, 6 2-3, 6 3-4 and 7 octaves, in rosewood cases, with full metal frames, from the plainest to the most costly. Among the assortment will always be found the celebrated Pianos of Chickering, Boston, and Nunn & Clark, N. York, both of which makers received gold medals at the World's Fair in London. Also, PRINCE & CO.'S ORGAN MELODEONS, intended to supply the place of an Organ in small churches, Seminaries, family worship, &c. Prices \$45 and \$75.

Orders from the country for Pianos, Guitars, Music or any article in our line of business, will be as fully and faithfully executed as if the parties were personally present.

A liberal discount made to Dealers, Seminaries, Professors, &c. feb. 1 6t

AMERICAN FARMER.

BALTIMORE, JULY 1, 1852.

Particular Notice to Subscribers in Arrears.

On the wrapper of our June No. we made a note of the amount due by each subscriber in arrears—Those who may not have attended to the hint, before our next issue, will be able to account for the non-reception of the paper. The price of subscription is too trifling to permit the payment of it to be delayed from year to year, and we must take it for granted, that those who fail to settle for it, are indifferent as to the reception of the "Farmer"—consequently, thankful as we are for the support of the farming interest, we do not wish to force our journal upon any one; yet we are willing to continue it to all who may desire it, if they notify us of their wish to that effect, tho' it may not be convenient to them to remit the subscription.

TO POSTMASTERS AND OTHERS.—When a subscriber wishes to change the direction of his paper, it is necessary that we should be informed as to the office *where it is now received* as well as the name of that to which it is to be sent—otherwise errors may be likely to occur.

On the removal of a subscriber, or refusal or neglect to lift his paper from the post office, the post office law requires a written notice to be given by the post master to the publisher—It sometimes occurs, that the paper is returned to the publisher, with the endorsement "*John Smith does not take this paper out,*" without any clue being given as to the post office, county or state, at which the said John Smith has been receiving it—and the order is not attended to—Give the name of the post office as well as that of the subscriber, and it will be all right.

IMPORTANT TO THE FARMING COMMUNITY.—The communication of Dr. DAVID STEWART, embraced in the advertisement of Mr. John Kettlewell, accompanying this number, will receive the most profound attention of the reader. We are not accustomed, as our readers are aware, to speak otherwise than cautiously of the various compounds which are presented to the notice of the farmer as panaceas for all the evils to which their lands are liable—but when a gentleman so eminent in his profession as is Dr. Stewart, and so reliable in every respect, as a man, comes before the public in a recommendation of any matter as worthy of the attention of the farmer, we have no hesitation in expressing the conviction of our own minds, that there is no humbuggery about it. It will be seen that the Dr. presents the experiments of the most reliable character in England, and adds his own experiments to them, to prove their correctness, the results of which can not but be of the most beneficial character. From conversation with Dr. S. we know that these results are deemed by him of vast importance, and a new era may be now dawning upon the agricultural community.

Mr. Kettlewell will, no doubt, in the manufacture of his Salts, strictly adhere to the formula as commended by Dr. Stewart—his own character, and hopes of future success, will be a sure guarantee that he will do so—and we hope that full and fair trials will be given to the manure he now offers to the public.

Are not these experiments given in the English journals, and alluded to by Dr. Stewart, very similar to those said to have been made by a Professor in a city at the North—a manure from whose recipe is now offered to the public by manufacturers or dealers in that section?

A convenient boiler is advertised and described in this No. by B. Bent, Jr. of New York, which is worthy the attention of farmers and others.

Messrs. Robbins & Bibb, of this city, it will be seen, also offer a new and improved boiler to the farmer and planter, which is also worthy of their attention.

GOLDEN FLINT WHEAT.—We refer the reader to the advertisement of Mr. Gale, offering his Golden Flint Wheat for sale, for seed—the sample exhibited at our last Exhibition, was much admired, and bore off the premium. We hope Mr. Gale will not permit his wheat to be sent to market in the filthy state in which other kinds offered for seed last year, were sold—complaints in regard to which were very loud and numerous.

NATIONAL AGRICULTURAL CONVENTION.—This Convention, the call for which was published in our last, was held at the Lecture room of the Smithsonian Institute, at Washington, on the 24th ult. and continued in session two days.—It was moved and adopted that a National Agricultural Society be formed—A President and Vice President for each State, an Executive Committee, Treasurer, and Secretaries, and a Board of Agriculture, to consist of three members from each state, to be appointed by the State Societies, or where there is no State Society, by the Executive Committee of the National Society—to manage the affairs of the Society—Marshall Wilder, Esq. of Massachusetts, was elected President—W. D. Bowie, Esq. was chosen Vice President for Maryland, and C. B. Calvert, Esq. Chairman of the Executive Committee. A Constitution was adopted, and a memorial ordered to be prepared, to be presented to Congress, asking for such aid for the encouragement of Agriculture as they may deem proper.

At the conclusion of the session, the members waited upon the President of the United States, in a body, to pay their respects to the Chief Magistrate of the nation, when Mr. Wilder addressed him as follows:

MR. PRESIDENT: We appear before you as the representatives of the agricultural interests of the United States; as the representatives of an employment upon which must ever depend, if we may trust the history of the past, not only the welfare and prosperity of one art or profession, of one individual or nation, but of the civilized world.

We have been in convention in this city to consult in relation to the advancement of this great interest. We have established a United States Agricultural Society, and a committee has been appointed to memorialize Congress for its promotion.

Our deliberations are closed; and we are about to return to our respective homes. But, Mr. President, we could not leave the seat of Government without first paying our respects to you as Chief Magistrate of our beloved Union, and of assuring you of our profound respect for your private worth and distinguished character.

To this address President Fillmore replied in the following terms:

MR. PRESIDENT: Your kind remarks have taken me by surprise, and I fear that I have no fitting words to make a suitable acknowledgement. I am most happy, however, to meet you and your friends of the National Agricultural Society, and to welcome you to the Executive mansion. I appreciate most profoundly the importance of your association to the agricultural interests of the country. I was myself brought up on a farm. I know by experience the labor and toil of a farmer's life. When a boy I have followed the plough till I was so weary that I could hardly walk to the house at night. I have swung the scythe and handled the sickle all day, but am happy to learn that these laborious occupations are now much relieved by the invention of reaping and mowing machines.

But the farmer's life, with all its toil, affords a happy independence, that the professional man may well envy. I am gratified to hear that you have formed a National Association for the object of collecting and diffusing information. In this way you will concentrate your energies and extend your usefulness, and as your occupation is the great foundation of the wealth and prosperity of the country, every thing calculated to advance it should be hailed with pride and approbation by every citizen of the Republic.

Whether in or out of office, be assured sir, that I shall always take a deep interest in the prosperity of the agricultural interests of the country. Without this our arts, manufactures and commerce must languish, but all may be prosperous together. Hoping that your infant Society may prove a blessing to the country, I beg leave to return you my grateful acknowledgements for the kind and flattering manner in which you have been pleased to speak of me personally, and of my official conduct, and shall be most happy to take the several members of your Society by the hand, and to wish them a pleasant sojourn in our city, and a safe return to their families.

The Convention, after leaving the Presidential Mansion, called on Mr. Webster, at his private residence, where a similar interchange of civilities took place.

AMERICAN FRUIT CULTURIST.—We have received a copy of a work from Derby, Miller & Co. of Auburn, New York, by JOHN J. THOMAS, bearing the above title. It is "the seventh edition, and contains 40 pages of new matter, with full directions for the pruning and management of Dwarfs and Pyramids, with some hundreds of smaller additions, and many new engravings."

It treats of almost every thing connected with the culture of fruit, of every kind, describes their several qualities and characters, and decides, we think, with candor upon their respective merits. That this work has passed through six editions, and the demand has continued so great as to render a seventh edition necessary, is conclusive proof that it has superior merits, or that it would not have received such strong proof of public favor. We have read it attentively, and hesitate not in saying, that it is an admirable work—one much wanted by the agricultural public, and trust that it may find its way to every agriculturist's library. John J. Thomas, the author, is the son of David Thomas, of Auburn, New York, the author of a kindred work. To say that the son and father are among the most distinguished Horticulturists of America, is but to accord to them what every one acquainted

with their professional accomplishments will sanction. Messrs. Thomas are not mere theorists, but practical men, having made the growing of fruit trees an important branch of the business of their lives. They are enthusiastically devoted to the science of Horticulture, and combine high scientific attainments with a practical experience extending through the greater part of their lives; their teachings are therefore the more to be treasured, as they are the result of ripe experience. Those who wish to become thoroughly indoctrinated into the science and art of fruit growing, and to become acquainted with the best varieties of fruits of the present day, should buy the book, read, study and digest it.

ABSORBENT AND RETENTIVE POWERS OF CLAY AND OTHER EARTHS.

Much honor has been lately awarded to professor Way, of England, for his discovery, that clay possessed the power of retaining within its body nitrogenous and ammoniacal substances; but, if we understand language, this discovery, is not so novel as those who sing the praises of the learned professor suppose. Solomon hath said, that "there is nothing new under the sun,"—and we find in the *Letters of Agricola*, written more than half a century ago, the following, which clearly proves that the author was aware of the same properties in earthy bodies, and we hold it to be altogether unimportant, whether they arise from mechanical, or chemical causes, the effect produced is equally valuable.

"Earth," says *Agricola*, is a powerful absorber of all the gases which arise from putrefaction. The earth possesses not only the property of retaining the putrid streams which are formed from the dung of decomposing bodies within itself, but also of attracting the effluvia when floating in the air. The salubrity of a country depends on this latter quality; as the practice of burying the dung in the earth is founded on the former. The stench proceeding from the dissolution of organized matter, never rises through the ground to assail the nostrils, although it is sufficiently offensive from bodies corrupting in air or water. A strongly dunged field, after being ploughed, sown, and harrowed, sends forth a healthful and refreshing smell—a proof that all the putrid vapors which otherwise would annoy us, are absorbed and retained for the nutrition of the crop. It is on this account that the poorest earth can be enriched in a very high degree by mere exposure to the gases of putrefaction. Put a layer of common soil along the top of a fermenting dung-hill from 12 to 18 inches thick, and allow it to remain there while the process is carrying on with activity, and afterwards separate it carefully from the heap, and it will have been impregnated with the most fertilizing virtues. The composts, which of late have attracted universal attention, and occupied so large a place in all agricultural publications, originated in the discovery of this absorbing power of the earth, and in the application of it to the most beneficial purposes. A skillful agriculturist would no more think of allowing a violent fermentation to be going on in his dung-hill unmixed with earth or other matter to fix and secure the gaseous elements, than the distiller would suffer his apparatus to be set to work without surmounting his still with the worm to cool and condense the rarified spirit, which ascends to evaporation. In both the most precious matter is that which assumes the æriform state; and

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to behold it escaping with unconcerned indifference, is a demonstration of the most profound ignorance."

How the Savants of Europe, and America, could have permitted themselves to be humbugged by this novel discovery, which was known before professor Way was born, partakes somewhat of the marvellous; but some memories are decidedly short; and then, this is an age, when folks are running mad after new things, and are, therefore, very apt to catch at shadows, instead of substantial realities.—*Ed. Am. Farmer.*

Recipe for making Currant, or Gooseberry Wine.

Take of either fruit, when ripe, 5 gallons when divested of the stems, put them into a tub, pour over that quantity, 5 gallons of soft water, let the water remain 12 hours, then strain the liquid through a flannel bag into another tub. In the meantime, dissolve 12 lbs. of good loaf sugar in boiling water—or, if you please, you may make a syrup of the loaf sugar, by simmering it over a slow fire, and skimming off the impurities as they may arise to the surface—when cool, mix the dissolved sugar or syrup, with the strained juice thoroughly, then put the whole into a keg, filling it up even with the bung hole, leaving the bung out, to enable it to work over. At the expiration of a fortnight, beat up the whites of 6 eggs, stir the eggs into the keg, and for every gallon of liquid put in one gill of pure French brandy, bruise a handful of sweet briar leaves, put them into the keg, and then drive the bung in tight, and cover it with mortar made of clay, and in six months, you will have a rich and delicious wine, whether currants or gooseberries be used,—a wine which, if bottled, will improve each succeeding year.

REVIEW OF THE TOBACCO & GRAIN MARKETS.

Prepared for the American Farmer by J. W. & E. Reynolds.

We have had a very active demand for Tobacco during the past month, and stocks now in hands of the agents is much smaller than it ever was at this period of the year; and stocks also in the hands of the importers, both of Bremen and Holland, is smaller than they ever were—From a statement now before us, giving the stocks on hand the first of the year in Amsterdam, from 1826 to 1st January, 1852, it was never less than 2000 hhds., and would average at least 4000 hhds., yet the stock held there on the 9th of June is only 168 hhds.—and it is in proportion almost the same both in Rotterdam and Bremen, and yet it is impossible to get the price up with us, and we believe also with them—Why it is so we cannot tell—we can, however, derive the consolation from these facts, that there cannot be much danger of the prices declining.


We quote at the same prices we gave in our last. Common frosted—dark crop and second, \$2½ a 3½—good crop, \$4 a 5—good to fine red and yellow, \$5½ a 8—ground leaf, \$3½ a 7½.

Corn—white, 59 a 60c.—yellow, 60 a 62c.—Wheat, \$1 a 1.05—Oats, 38 a 40c.

Beef Cattle.—The offerings at the scales on Monday reached 700 head, 580 sold, at prices ranging from \$3.50 to \$4.25 per 100 lbs. on the hoof, equal to \$7 a \$8 net, and averaging \$3.88 gross. **Hogs.**—Sales at the scales at \$7.25 a 7.75.—Rye Flour, \$3.69—Corn Meal, \$3.25; Flour, rather dull; Howard st. \$4.12; nothing doing at City Mills; Pa. rye do. \$3.—Arrivals of new crop Wheat from N. Carolina and Somerset, Md.—In Cotton an advance of ¼ ct. during the past week—Whiskey, 21 a 22½ for bbls. and 20 a 20½ for hhds.—Wool, unwashed, 18 a 20, tub-washed, 27 a 29, and fleece washed, 33 a 35c.—Rice, \$4.25 a \$4.50 per 100 lbs.—In Beef and Pork the market is firm—Hops have advanced, sales at 45 a 50c.; Sugar, Cuba, 5 a 6; N. O. com. to fr. \$4.87 \$5.25; P. Rico, \$5 a 6.50—Molasses, N. O. 25 a 30c., P. Rico, 26 a 29, Cuba clayed, 21 a 23, do. Muscov. 24 a 26.

Guano.—In the prices for less than 50 tons, on page 17, it should have been stated, "for the ton of 2000 lbs."—these are the prices by second hand dealers.

By the last arrival from England, we find it stated, that "the Earl of Derby stated to a deputation of farmers, headed by the Duke of Richmond, that the claim of Peru to the Lobos Islands is undisputed by England—Nay, that it has been acknowledged for 18 years. This statement is regarded as singular, after the statements of other members of the Ministry, that the Islands in question belonged neither to England nor Peru.

 We refer those wishing to purchase land in Eastern Virginia to the advertisement of Mr. Dunstan in this No.

A GARDENER WANTED.—For a garden farm near the Balt. and Ohio Rail Road line, near a town in Va.—One who understands cultivating fruits and vegetables—if he has a wife who will attend a few cows, &c. and wash and iron, &c., it would be preferable. Apply by letter, post-paid, to the Editor. July 1st.

PIGS FOR SALE.—Now ready for sale, several pairs of very fine PIGS, of the Chester breed, and some a cross of China and Chester, from my stock, which obtained premiums at the late State Cattle Show. Price, \$10 a pair, and \$1 for box, if shipped. Those wanting, will please apply immediately to Mr. S. Sands, at the Farmer office, or to C. WARREN, Elkridge Landing, Howard Co. Md. Also for sale, a splendid Boar, 2 yrs. old in Sept. Price \$50—perhaps the best Boar in this state. July 1st.

LIME.

THE subscribers are prepared to furnish Building and Agricultural Lime at the depot on the Back Basin, corner of Eden and Lancaster-sts., which they will warrant to give satisfaction, it being burnt from pure Alum Lime Stone, equal to any found in the United States. Orders may be left with WILLIAM ROBINSON, No. 15 Hollingsworth-street, near Pratt.

tf **FELL & ROBINSON, City Block**

Important to Farmers and Machine Makers.

THE subscriber respectfully informs the public that he has lately completed a TRIPLE REACTING INTERNAL GEARED HORSE POWER, which outvals any in use.—It is made entirely of Iron, both Frame and Gearing. The Journals are made of Cast-Steel—its weight is 600 lbs. On trial it has proved itself capable of performing from 50 to 100 per cent. more work than other Powers with the same labor of the team. It is warranted to hold 8 horses.

I have also completed a combined THRESHER AND CLEANER, which is capable of Threshing and Cleaning from 300 to 500 bushels of wheat per day, with from 6 to 8 Horses and an equal number of hands.—4 horses can thresh with it from 100 to 200 bushels per day of wheat, and 400 to 500 of oats. It is very convenient for those who follow Threshing, and for two or more farmers to own in company, it is more convenient to move than any machine in use. The Machine stands on the wagon while threshing—the Power is loaded on the same wagon in moving—two horses are sufficient to move it; it will save enough labor in threshing 2000 bushels to pay its extra cost. It will thresh in a field or by a stack as conveniently as in a barn. The cylinder and concave can readily be adjusted so as to thresh with equal facility both tough and dry grain.—it is free from the complication and liability to get out of order of other machines of the kind, and of less cost.

Machine makers supplied on the most reasonable terms. Powers made by wholesale by I. W. Groff, Lancaster, Pa.—Threshers, Machines, &c. made and for sale by Jeffrey Smedley, Columbia, Pa.

All orders directed to the subscriber at Lancaster, Pa., will be promptly attended to. SAMUEL PELTON, Jr. Also for sale by E. Whitman, Jr. & Co., Baltimore. July 1st

A. E. WARNER, No. 10 N. Gay st.

MANUFACTURER OF SILVER WARE, FINE GOLD JEWELRY, and importer of BEST SILVER WARE, FANCY ARTICLES, &c. would respectfully invite the attention of those in want of any of the above articles, that he keeps always on hand, and makes to order, every variety of Silver Ware, fine Gold Jewelry, and best quality Silver Plated Ware, which he will sell on the most accommodating terms. Feb. 1st.

Highly Important to Farmers and Planters!!

A NEW ERA IN AGRICULTURAL PROSPECTS.

COMBINATION OF

KETTLEWELL'S SALTS with Peruvian Guano!!

GUANO MADE A LASTING MANURE.

It will be remembered by all who have read the advertisements of the undersigned, in the American Farmer, and elsewhere, that he frankly admitted the superiority of Peruvian Guano in the rapid production of a Wheat crop, although he as firmly contended, that his salts were far more lasting, much better adapted to the growth of clover, with a decided advantage to the land, for a rotation of crops. To this opinion he still adheres, and it has been confirmed by the most extensive experience.

The opinion which the undersigned entertained, that a mixture of his Chemical Salts and Peruvian Guano, would make one of the most prompt, cheap, and what is of more importance, *lasting manures*, known to the age, was most favorably entertained by the best practical and scientific chemists in the country, and has now been demonstrated by unquestionably, one of the most accomplished and able chemists we have. All who know Dr. David Stewart, will admit that as an agricultural and scientific chemist, he is second to no man in the nation.

For the conclusive and intelligent reasons upon which these opinions are based, the undersigned confidently refers to the communication herewith published. Now the undersigned can testify from his own experience, not only to the liberality and enterprise with which the agricultural community seek the best remedy to renovate their lands, and increase their crops, but when disappointed in their full anticipations, the generosity and forbearance which they manifest to the manufacturer, when they believe his efforts are honest and fair. The undersigned asks no more—wants no more than such a trial. His own faith in its entire and unqualified success, is as strong and stern as was that of the ancient prophet. He stands not alone in this opinion; it is firmly sustained by those who are disinterested, and whose opinions are not only entitled to respect from every quarter, but should disarm the most skeptical from any suspicion of quackery or humbug. The farmer cannot lose by buying this mixture. It contains every element the soil requires. There is nothing absent—nothing deficient. Instead of exhausting the soil, it gives it permanent improvement. The undersigned, therefore, trusts and earnestly requests that the farmer who buys five tons of guano, should try, side by side, fairly and without prejudice, one or more tons of this compound.

What will it cost?

1 ton best Peruvian Guano, will cost say	\$22 50
1 ton Chemical Salts, will cost,	10 00

\$32 50

therefore, is the cost per ton, not as much as Patagonia, nor much more than Mexican Guano, and \$13 less than Peruvian, whilst the undersigned sacredly avers his firm belief, that for crop and land, wheat and clover, it is really worth \$10 per ton more than even the best Peruvian Guano.

300 lbs. of the best Peruvian Guano would cost say, \$6.90 per acre; 300 lbs. of the Salts and Guano, would cost \$5.04 cts. per acre, nearly \$2 less than Guano alone; 400 lbs. to the acre, would cost \$6.72, or 20 cents less than 300 lbs. of the Guano alone.

1-3 of a ton of the best Peruvian Guano, would cost say, \$15.33 1/3 cts.; 2-3 of a ton of the Salts would cost say, \$13.33 1/3 cts. or \$28.67 cts. per ton. Now the undersigned does not bet, and it is no argument, but he will agree to present One Hundred Dollars each, to the State Agricultural Societies of Maryland and Virginia, if any advocate of Patagonian, Mexican or African Guano, will do the same, upon the condition that this compound will yield a *better crop*, and afford *more improvement* to the land than either of the Guanos specified. The undersigned means the last preparation, costing \$28.67 cts. per ton; and the party losing, to pay the forfeit. Quantity, soil, and cultivation to be the same, under or by the direction of the Presidents of either of the above societies.

If the undersigned mixes this compound, there will be a charge of \$3 per ton, which is the actual cost. In all cases the very best Peruvian Guano will be used, and a forfeiture of *One Thousand Dollars* paid, where the quantity of Guano directed, is found deficient by competent analysis. A certificate under oath, will also be furnished, whenever required, to each order. When the Farmer makes this mixture himself, great care must be taken to have the mixture complete,—pulverize it as fine as possible, and then sieve it through the finest sieve. The Guano becomes entirely inodorous—After this is carefully done, it must not be applied by being ploughed down, as when Guano is used by itself, but sown broadcast when the land is in order, and harrowed in, in the same quantity precisely that guano alone is used. *Particular attention must be paid to this*, as the Ammonia in the Guano is sulphated, and therefore sinks into the soil, instead of escaping from it. No commission will be charged for the purchase of Guano, but its cost must be *invariably paid in cash*, it being a cash article. Great care will be taken in buying Guano by analytical tests. This manure will be put up in barrels or bags, and as before stated, the mixture being inodorous, they may be serviceable for other purposes. Now let all who have faith enough to make the experiment, order as soon as possible, so that there may be ample time for care, and no disappointment. Early orders are important, because the article will not be kept on hand, but mixed, in conformity with orders, and the exact proportions of Guano and Salts, as may be directed.

The undersigned has been for four years laboriously engaged in the manufacture of chemical manures, and he has been generously supported by the farming interest, not having one barrel of his compounds left the past season, and for which he thus pub-

licly returns them his respects and gratitude. And while he knows that the same energy—the same amount of capital, and enterprise, would have yielded him more profit in almost any of the active business pursuits of life, yet at the start it was his fancy; and time has made it “a labour of love.” In conclusion, he refers to any respectable citizen of Baltimore who knows him, for how far he is deserving of confidence, and having but recently been the high Sheriff of the city, he is tolerably well known.

To his old friends and customers who have always preferred his pure Biphosphates and Renovator to any other manure, he earnestly solicits a continuance of their favors. He will have an ample stock on hand, and all orders will be promptly filled. Also, constantly on hand, the very best “GROUND PLASTER,” an article in the purchase of which farmers cannot be too careful. Also, “GROUND PLASTER AND POTASH,” “ARICULTURAL POTASH, &c. &c.”

JOHN KETTLEWELL,

Office at the wholesale Drug Store of *Ober & Co.*,
cor. Lombard and Hanover streets.

FACTORY, Federal Hill, Baltimore.

DEANE & BROWN, Richmond,
Sole Agents for Va.

P. S.—The above mixture must be applied broadcast at seeding time, and harrowed in with the seed, before, at, or after seeding.

The undersigned has made arrangements to have a qualitative analysis made of all soils forwarded to him at the low price of \$5, and by one of the ablest chemists of the country. When will farmers appreciate the value and importance of this trifling cost? In no other way could they be so well repaid for so small an outlay. July 1—1t.

DR. STEWART'S LETTER.

To John Kettlewell, Esq.—

DEAR SIR:—A series of experiments have been recently published in the Journal of the Royal Agricultural Society of England, which were intended to test both the absolute, and relative value of Agricultural Salts, (or compounds, such as you prepare,) for the renovation of worn-out lands. As these were not made to support any theory, or published to promote any private interest, it occurs to me that our agriculturists may place more confidence in them, than they do in the theories of our own scientific agriculturists, or the isolated experiments with these Salts by practical agriculturists, made by Baron Liebig in Europe, and Hon. R. Johnson and others in this country—(See Liebig's Letters on Ch., page 482, and vol. vi—page 149, Am. Farmer. As these experiments were repeated during seven years, commencing in the year 1843, and enable us to account satisfactorily for the failure of the best Peruvian Guano, and also the failure of agricultural salts on some farms,—I think you will advance the public good, as well as your own interest, by using these truths, so faithfully established, in the application of your Renovator for the improvement of worn-out lands.

The report of these experiments is a very long one,—about 40 pages of the Journal (No. 27—1851) exclusive of several large charts. The facts are ours—the conclusions are his. We will therefore make the following propositions, and refer to these facts for authority.

1st. The experiments were tried on what we would call good land in this part of our country, as it produced 17 bushels of wheat per acre, for 7 years, without any manure, after having been exhausted by previous cropping. He says, (p. 5.)—“and having selected a field, which, agriculturally considered, was exhausted, we have grown the same description of crops on the same land, year after year, with different chemical manures, and in each case with one plot or more, continually unmanured, and one supplied every year with a fair quantity of farm-yard manure. In this way, 14 acres have been devoted to the continuous growth of wheat since 1843.” “This field had been exhausted by a full rotation of Barley, Pease, Wheat and Oats, without any manure—when taken for experiment in 1844. The field of 14 acres was divided into about 20 plots”—see p. 9. * * *

He also says, (see page 23)—“It is a remarkable fact, that from plot 3, (the unmanured one) we have carried from the land 7 successive crops of wheat, grain, and of straw, without any manure whatever, and that under this treatment there are no signs of diminished fertility; (a) for the average of the 7 seasons collectively, is about 17½ bushels of dressed wheat, and about 16 cwt. of straw per acre.”

2d. “Our next proposition is, that these experiments were tried on soil that naturally contained an abundance of all the agricultural salts or mineral manures,” (see page 23)—“Thus, the results are alone sufficient to show, that whatever the deprivation by the previous cropping, the soil still contained (relatively to the ammonia available from natural sources) an excess of the necessary mineral constituents”—But that even in this soil, the addition of purely mineral manures increased each crop when applied alone, adding more than double as much to the crop of the 7th year, than it did to the first, when compared with the unmanured plot,—(see page 14.) And also on page 25, he says—“That the mineral constituents are indeed becoming deficient in several of the plots of our experimental fields, we have in our collective results abundant evidence.” (b)

Our 3d proposition is, that Salts of Ammonia, or best Peruvian Guano, fails just in proportion to the deficiency of these mineral manures, or agricultural salts, and that the full effect of Peruvian Guano can only be insured by combining it with these agricultural salts. For instance—on page 28—you will see that Salts of Ammonia—or, we may say Peruvian Guano alone, increased the crops to nearly 26 bushels per acre, or added nearly 9 bushels, when compared with the unmanured portion, while the mineral manure, with salts of ammonia—or we may say best Peruvian Guano with Agricultural Salts, produced 35½ bushels per acre, and added 18 bushels to the crop produced the same year, on the unmanured portion. If 300 lbs. of Salts of Ammonia, equivalent to 600 lbs. of Peruvian Guano, add but 9 bushels of wheat to the usual crop of 17½ bushels, and if on the same land, at the same time, 600 lbs. of Peruvian Guano, mixed with the Agricultural Salts, add 18 bushels to the 17 grown without manure—then it is manifest that 10 bushels of grain have been added to the acre by the mere addition of the Salts, to the Guano, beside the 9 bushels added by the Guano alone, (see plate, p. 28, Plot 10 and Plot 17)—But to use the author's own words, on page 26, he says:—“Thus it appears that although Plot 10 with ammoniacal salts only has given every year

a considerable increase beyond that of the unmanured plot, yet the ammoniacal salts thus supplied were evidently much in excess over the minerals available in the soil; for in every case when minerals have been also liberally supplied, we have in corn, straw, or both, a considerably larger increase still. The effect of mineral manures for the growth of wheat is, then, in these cases, clearly shown. * * We by no means suppose, however, that if some cheap source of ammonia were discovered, we might with impunity continuously exhaust our soils in the growth of corn by its means, but on the contrary fully admit that under such a course, our mineral supply would soon become deficient." (c)

It was upon this principle that I purchased from you several tons of your agricultural salts, which you call *Renovator*, and employed your men to mix it for me, with about an equal quantity of Peruvian Guano, and sieve the whole together before applying it to the corn this spring, on an exhausted field. There can be no doubt with regard to the success of this, if we may judge from the present appearance of the crop.

Now (*a fortiori*) if in the productive soil of England containing an "excess" of agricultural salts, they are required to insure the full effect of Guano, how much more are they required in our State, where the straw that contains these salts is seldom returned to one-tenth part of the cultivation in the form of stable manure. The agriculturists of our State may rejoice that they have found a specific in Guano—but they will find that it more rapidly exhausts the lands and will fail hereafter in proportion to the large crops now produced; and it will fail altogether where the supply of salts is now only sufficient to produce a good crop, and no more. The supply of powder must correspond with the supply of shot—in purchasing either, reference should be had to the proportion on hand. Agricultural Salts alone, will often fail partially or altogether without Guano; and Guano will often be thrown away, unless combined with Agricultural Salts to insure its effects, and avoid its exhausting influence.

If any thing can be proven by a most laborious series of experiments, it is proven that the two together will always succeed. The amount of success must necessarily depend on the proper proportion of the salts, as this can only be ascertained by an analysis of the soil, and as many farmers prefer to risk a hundred dollars, rather than spend five dollars in an analysis, I will suggest a mode by which the proportion may be guessed at. Where the Agricultural Salts are deficient in a soil, the lower leaves of corn and other grain always "fire" and die during a dry season. But where the Salts are in excess—ALL of the leaves fire and are destroyed by the sun in a wet season. It will always be your interest to adhere strictly to the formula for the *Renovator*—and if the amount ordered by any one will warrant a special manufacture, it will be the interest of the agriculturist to direct the increase of any element of the *Renovator* that may be deficient in his soil. Yours respectfully,

DAVID STEWART, M. D.

77 North Eutaw street, Baltimore.

June 26th, 1852.

*Compare quotations a, b and c, and it will appear that the natural disintegration of some soils will supply the proportion of mineral Salts—but if ammonia is added the annual supply from this source soon exhausted is without fallow.

Horner's Prepared Animal Manure.

THE subscriber asks the attention of the farming community to the following analysis by Dr. Jas. Higgins, State Chemist, and comparison between his prepared Animal Manure, and Patagonian and Peruvian Guano. It is necessary for a full understanding of the comparison, to state, that his Compound costs but 35 cts. per bushel, or \$12 per ton.—This preparation has been used with much success on the tobacco crop, and testimonials from Mr. Reynolds, Mr. R. H. Hare, Col. Bowie, and other well known planters and farmers, who have purchased it for Corn, Wheat, Tobacco, and spring crops generally, can be produced as to its efficiency, by practical tests.

For further particulars, see advertisement in another part of this paper. July 1st JOSHUA HORNER.

LEONARDTOWN, Oct. 7th, 1851.

To Mr. J. HORNER, Baltimore.—Dear Sir:—Below I send you a statement of your Manure as to its essential valuable constituents, and the relation which it bears to Patagonian Guano. A ton of your manure contains of

Ammonia,	54 34-100 pounds
Phosphate of Lime,	538 do
The average of Patagonian Guano by the ton, as it is sold,	
contains of	

Ammonia,	60 pounds
Phosphate of Lime,	800 do

Estimating Patagonian Guano and your Manure by the same rule as to the value of the several constituents, the Patagonian Guano would be worth \$19.30 per ton, and your Manure \$14.44. If Patagonian, therefore, be worth \$38 per ton, your Manure is worth about \$28.50 per ton.

THE VALUE OF PATAGONIAN GUANO AND YOUR MANURE, I DETERMINE BY THE AGGREGATE VALUE OF THEIR SEVERAL VALUABLE CONSTITUENTS, and by the same rule which would make Peruvian Guano worth \$46 per ton. Your Manure also contains 122 pounds of Gypsum, 114 pounds of Salts of Potash and Soda, and 300 pounds of Lime to the ton, being about equal to Patagonian Guano, of average quality, in these constituents. Very truly yours, &c.,

JAMES HIGGINS, St. Ag. Chemist.

P. S.—You can make what use you please of this.

Kentish's Artificial Guano:—

ESTABLISHED FIVE YEARS.

Price, \$20 per Ton, of 2000 pounds.

CERTIFICATES.

Extract of a Letter from E. B. Addison.

ALEXANDRIA Co. Va. April 23, 1851.

Dr. John H. Bayne, President of Prince George's Co. Agricultural Society, Maryland, has desired me to inform you that last spring he used African Guano, Poudrette, Peruvian Guano, and your Prepared Guano on Potatoes. The first two were distanced, but the result from the Peruvian and yours, was about equal. He pronounces your Prepared Guano to be a very excellent article, and esteems it highly.

Extract of a Letter from G. Dufrey, Va. 5th Sep. 1851.

"I used your Prepared Guano, last Fall, on Wheat, alongside of the best Peruvian Guano, which cost me \$48 per ton, and there was not much difference in the effects."

NORFOLK Co. Va., July 3, 1850.

Sir.—I have used your Prepared Guano on Peas and Potatoes, with great success, and I give it the preference to any manure I have ever employed.

To Mr. C. A. Kentish.

E. M. MARCHANT.

At a meeting of the Farmer's Club, held at the American Institute, New York, on the 16th December, 1851, the following communication was made:

I present a specimen of Turnips raised upon my place, last season, which you will recollect was (on account of the dry weather) an unfavorable one for turnips. The specimen is not the largest grown, by any means, although this weighed, when first pulled, over 4-3-4 lbs. I used in the spring of 1850 about three barrels of Prepared Guano to the acre, and planted with Sweet Corn, which produced a large crop. I then cropped with Potatoes, which was also a good crop. After which, I put in Turnip seed, without any further manuring than the 3 barrels above mentioned, and the result was far beyond my expectations.

Extract from the American Farmer, Balt. Md. June 1851.

"KENTISH'S PREPARED GUANO.—The Pamphlet contains many recommendations of it, but the attestation of such a man as Dr. Bayne, is the best authority for us."

Seth Perkins, Fairfax Co. Va.

E. R. Gale,	Norfolk Co. Va.
J. Whitehorn,	
Hugh Bates,	
Mrs. F. Allen,	

Circulars, containing numerous other Recommendations can be had at this office. May 1-4t.

TO FARMERS AND AGRICULTURISTS.

" CHAPPELL'S IMPROVED FERTILIZER!! "

The subscriber would again call the attention of all Farmers desirous of renovating or improving "Worn-out lands" at a small expense, to the chemical compound, manufactured by him and known as "CHAPPELL'S IMPROVED FERTILIZER." The Sales of this article during the past season, have been large, and as far as we have been able to ascertain there has not been a single complaint of its action, but on the contrary, has fully sustained the superior qualities claimed for it.

Many farmers who had used the Fertilizer some season since, without perceiving much benefit from its application, were induced to purchase a small lot of the Improved Fertilizer this spring, for farther experiment, the result of which has proven of such a favorable nature, that a number of them have expressed their intentions of purchasing largely for their fall crops.

To those farmers who have used the Fertilizer, without deriving the benefit anticipated, and therefore discouraged to a further trial, we say, the same disappointment often happens with Guanos and other manures. Try it again, if only a small quantity,—procure 2 barrels, prepare an acre of the poorest land on your farm, impoverished, but otherwise suitable for cultivation—let the land be well ploughed and harrowed, and made soft and porous, and put in proper order for the reception of the crop—sow it in Wheat or Rye, and harrow, or plough in the seed and Salts together, so as to cover them in the soil. In the spring, sow clover seed, and our word for it, there will be no disappointment, either in the crop of wheat or clover, and should the season prove favorable, you will be surprised at the result of the experiment.

As stated in our previous advertisements, the Fertilizer as now prepared, has been greatly improved by adding largely to the quantity of Bones dissolved in Sulphuric Acid, besides an additional quantity of Potash and Soda.

Each Barrel contains as much Phosphate Lime (dissolved in Sulphuric acid) as 200 lbs. Peruvian Guano, besides a full supply of *Alkalies, Sulphates, Silicates, Animal Charcoal, &c.* Two barrels therefore per acre, must of necessity benefit the crop and soil. Besides their immediate availability for the purposes of the growing crop, they act *chemically on the soil itself*, liberating an additional supply of nutriment not before available, or in a condition to afford nourishment to the plant. It is in view of these facts we say, it is *impossible to furnish the soil with a supply*, without benefit. On some soils its action (like lime and guano) may be more prompt and show an immediate result, in others, its action may be suspended for a time, but ultimately must be of benefit to the soil.

As a top dressing, its action cannot be depended on with the same certainty as when put into the soil with the plough or harrow, and as the winter gives a fine opportunity to dissolve the materials, and the frost pulverize and diffuse the mixture through the soil, we therefore (for this reason only,) feel more confidence in recommending the Fertilizer for *fall than spring* sown grains, as it is in *solution only*, that the Salts can be appropriated by the plant for its

nourishment; hence the necessity of an abundant supply of moisture.

We have heretofore published many letters of recommendation, and now add a few additional; we could obtain others, but conceive the testimony so conclusive, that any thing more would be superfluous, and refer farmers to those who have used the Fertilizer in their neighborhood, and not to believe any who have not tried it themselves, as many false reports have been circulated to its prejudice. We refer of course to experiments with our Fertilizer, and no other—Experiments made with other *professed Agricultural Salts*, we are not accountable for, and in all cases of inquiry, we wish this to be kept in mind—we do not wish any other to be confounded with our own. *Ours is the original, and only genuine "Agricultural Salts,"* and we are perfectly satisfied from a knowledge of the constituents entering into our Fertilizer, and those made by others sold as "Agricultural Salts," that ours contain 50 per cent. more *Bones*, 100 per cent. more *Sulphuric acid*, and 50 per cent. more "Soluble Salts," than any other compound now offered for sale.

The following letter from Com. T. Ap. C. Jones, who has ordered largely for his spring crop, testifies to the action of the Fertilizer in comparison with Peruvian and Patagonian Guano:

NEAR PROSPECT HILL, VA., April 25, 1852.

P. Stockton Chappell—Dear Sir:—I suppose I am indebted to your kindness for a copy of the Baltimore Sun, of 17th March, containing notice of transfer of "South Baltimore Chemical Works" to you. I should have sooner acknowledged your attention, but I was anxious to see a further development of the effects of your Fertilizer before I wrote. You may recollect that about a year ago I purchased the first Fertilizer, (a ton) with which I experimented with barley and corn, at the time of planting, and on wheat and grass, as a top-dressing, all in comparison with Peruvian and Patagonian Guano, at about equal cost. The effect on the barley was decidedly in favor of the Fertilizer beyond all question; while upon wheat, corn and grass, the difference was scarcely discernable on the growing crops. The ground on which the barley grew last year was seeded with Florence wheat on the 3d day of October, 1851; the ground was in the finest heart, 200 lbs. of Peruvian guano having been ploughed in after fallowing, but before seeding, which was done with Pennock's drill. The last dressing of guano was carefully sown broadcast transversely to the spring dressing of guano, and to the belt of the Fertilizer, through the barley, which separated the Peruvian and Patagonian guano, and the course of the drill crosses obliquely the belt of about sixty feet, on which the Fertilizer was used a year ago.

My wheat, like most wheat of the season, is but middling; my land was ploughed very deep, and, although it is high and rolling, the wheat has suffered severely from a redundancy of moisture; nevertheless, the wheat on the part on which the Fertilizer was used at the time of sowing the barley, in April, 1851, is not only *higher but stronger*, has a *better color*, and is in every respect *more promising* than the wheat on either side of it, notwithstanding the double dressing of Guano to one of the Fertilizer. I have also ten acres of corn ground in wheat, on which your Fertilizer was used and sown in comparison with Peruvian Guano and repeated at the time of sowing the wheat; the Fertilizer so far holds its own, and should I live to see it, I will give you particulars of the harvest.

The conclusion to which my mind is brought by the foregoing experiments are:

First—That at an equal cost, with less labor, and far greater convenience in its application, your Fertilizer is *fully equal* to the average quality of Peruvian Guano when first applied, and much *more durable* in its effects on after crops.

Secondly—That six hundred pounds (two barrels) of Fertilizer, incorporated with the soil with the harrow before seeding or planting, is better than 300 pounds of Peruvian Guano, to which the Farmer is compelled to add, with very considerable labor, $\frac{1}{2}$ bushels gypsum, the cost of which will bring the Guano, at the lowest rates, to.....\$7.50
Whilst cost of 600 lbs. Fertilizer.....6.00

Difference in favor of Fertilizer.....\$1.50

Very respectfully, &c. T. AP. C. JONES.

Extract of a letter from Dr. E. CHANDLER:
CHESTER COUNTY, PA., May 25, 1852.

On the 20th of Aug. 1850, I applied 150 lbs. of your Fertilizer

upon a fourth of an acre of poor land, that had not been farmed for forty years previous to the application of the Fertilizer. I had the ground ploughed in April and strewed over it 10 bushels of lime, and about same of ashes, and chip dirt from wood yard, harrowed it well with Cultivator, and when I put on the Salts. I sowed in Turnip Seed, Timothy and Clover, and finished off with a brush. The crops of Turnips were 70 bushels, that at 25 cents brought \$17.50, and at the rate of \$70 per acre. Last summer, (1861) the crop of good hay was 1100 lbs. or at the rate of 24 tons per acre, and now (May, 1862), the appearance of the grass on the same is far better than it was last year. Many persons have been to see this small, though satisfactory experiment, and are becoming convinced of the benefits of your Fertilizer.

BLOOMFIELD, Baltimore Co., March 23d.

Mr. P. S. CHAPPELL.—

Dear Sir:—In answer to your note of this date, asking for my experience in the use of your Fertilizer, I have but time to say, that two or three years ago I used but 2 or 3 barrels by way of experiment. Last year, I used upwards of 70, and this year I will drop it on every hill of Corn that I plant. My experience of its use on Corn, in the hill, is most unquestionably and decidedly favorable.

Very respectfully, yours, &c.

RICHARD J. WORTHINGTON.

BALTIMORE COUNTY, March 22d.

P. S. CHAPPELL, Esq.—

Dear Sir:—I have used your "Fertilizer" in many ways upon both Wheat and Corn, with great success.

Yours respectfully,

ED. W. WORTHINGTON.

"BRICK MEETING HOUSE," Cecil Co. }
March 26th, 1851. }

DR. P. S. CHAPPELL:—

Dear Sir:—As you desired when I saw you, I will tell all that has come to my knowledge of the effects produced by the use of your Fertilizer in Cecil county.

The number of barrels that I sold for you last year may amount to 700, and these were spread over an extent of 20 miles long, by 6 or 8 broad, upon Corn, Oats, Potatoes, Grass, Buckwheat, Garden Vegetables and Wheat.

Its effect upon these crops has been favorable, although a few farmers are not satisfied, whilst many are highly pleased and have directed me to procure for them larger quantities than last year.

Upon my own Corn and Oats crop its effect has quite equalled my anticipations, producing at least 15 bushels to an acre more than where none was applied. Upon the whole, the experiment has been very satisfactory, and where used upon grass and applied early its effect has been great.

It is very probable I shall sell more Fertilizer this year than during the past.

I remain, dear sir, yours truly,

WILLIAM FIERCE.

Price, \$3 per Barrel, containing 300 pounds.

Pamphlets, containing certificates and recommendations, can be obtained by addressing,

P. STOCKTON CHAPPELL,

July 11t

Office 165 Lombard street.

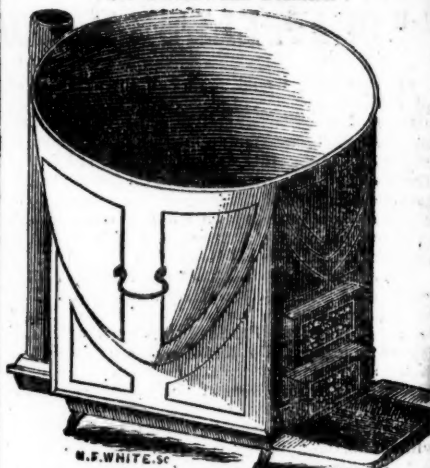
GOLDEN FLINT PREMIUM WHEAT.

THE subscriber will have for sale as soon after harvest as it can be got out, from 3 to 400 bushels SEED WHEAT, of the Early Golden Flint variety. This wheat is as forward as the Mediterranean, with the advantage over that variety of greater strength of straw; equally dry proof; and not subject to shattering. It took the premium last fall at the State Cattle Show, over other celebrated varieties. Those wishing to purchase will please call on Mr. John Wilmer, Commission Merchant, Bowley's Wharf, Baltimore, Md. Price \$2 per bushel.

July 14t

JNO. E. GALE.

McGreggor's Agricultural Boilers, For Farmers and Planters.



A NEW and improved article of Cauldron, far superior to, and decidedly the most economical boiler in use; equally adapted to wood or coal. It consists of a stove with an outer case extending to the entire top of the boiler, thereby allowing the heat to pass all around before it can escape. To Tobacco planters they are invaluable—after having used them for boiling food for stock, scalding hogs, &c. they can be removed to the tobacco house, and by reversing the boiler and putting it on top of the case, it forms a complete hot air furnace, and will heat the largest house sufficiently for drying purposes, the inventor having a special eye to that object; we have them of sizes from 15 to 150 gallons. Please call and examine before purchasing.

For sale by ROBBINS & BIBB,
Sole Agents for the State of Maryland,
39 Light street, Baltimore.

July 16t

LAND FOR SALE.

THE subscriber intending to remove to the South, will sell the Farm on which he resides, in the County of Chesterfield, near the City of Petersburg, State of Virginia, lying on the Appomattox River, 15 miles from Petersburg and 25 miles from the City of Richmond—containing 618 ACRES, one-third river and Creek low grounds, well ditched and in a fine state of cultivation—one third open highland of which 25 acres are set in young clover—the other third in woods, the greater part original growth, well timbered with pine—the Farm is as healthy and productive as any in the country—well watered—abounding in springs (in every department of the farm.) of the best water and might be made one of the best stock or grass farms in this section of Virginia—being within 2 or 3 hours travel of the city of Petersburg by land, and 4 or 5 hours by water—canal navigation.

The buildings consist of a frame dwelling of 4 rooms, and all house usual and necessary on a farm.

July 1. 21*

JOHN N. J. DUNSTAN,
Petersburg, Va.

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